

# MODERN

TECHNOLOGY DEPT:

PUBLIC LIBRARY

JAN 25 1941

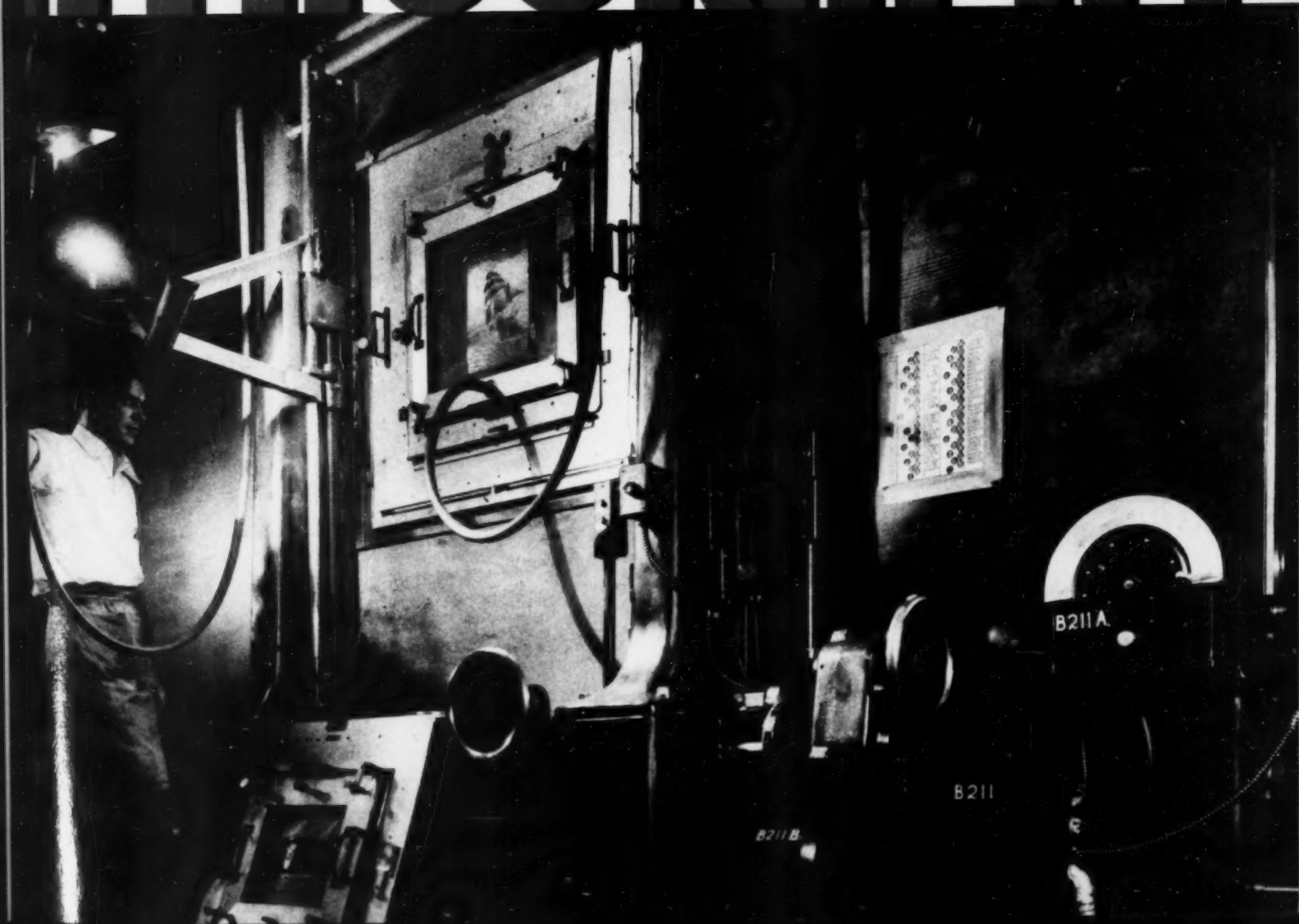
DETROIT

JANUARY • 1941 • VOL. 9 • NO. 1

# ml

First Copy

# LITHOGRAPHY



Fast Brown 1526P

✓ R v. 51 Jan-June 1941

## Senelith Inks

were the first lithographic inks  
made from dyestuffs  
treated with sodium tungstate  
for better sunfastness  
and are still leading  
with their outstanding resistance properties

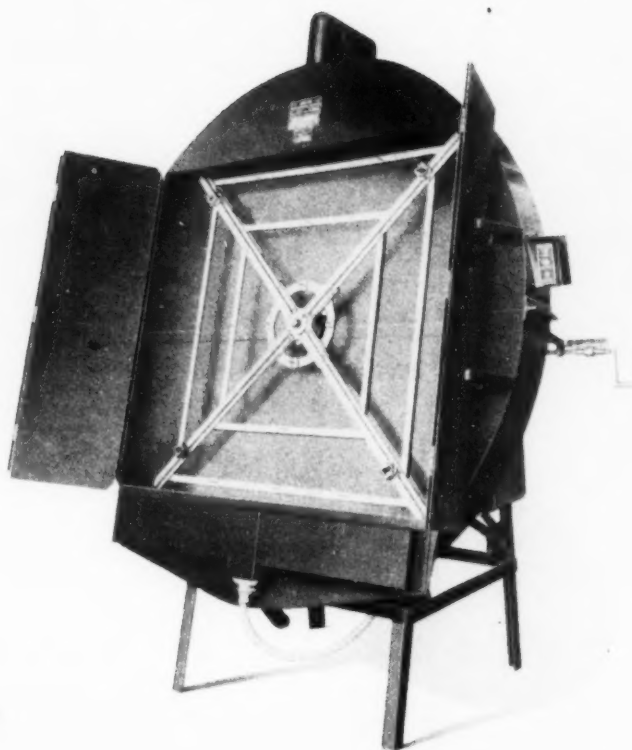
**The Senefelder Company, Inc.**

*"Everything for Lithography"*

32-34 Greene Street

New York, N. Y.

★ *Guaranteed to Give  
Entire Satisfaction and  
to Pay for Itself in the  
Money It Saves!*



*Monotype-Huebner*

# VERTICAL PLATE-COATING MACHINE

is a most important improvement in the making of offset printing plates. As compared to machines of the horizontal type, the Vertical Plate Coater produces plates from which a greater dependable number of impressions can be printed. By its use, uniform and properly sensitized coatings are obtained with half the solution required by horizontal whirlers, coatings are evenly distributed and thoroughly dried in half the time, and less than half the floor space occupied by the horizontal coating machine is used.

WRITE TODAY FOR INFORMATION AND PRICES

## *Made in Seven Different Sizes*

*6x8 inches to 24x26 inches	6x8 inches to 47x57 inches
6x8 inches to 29x39 inches	6x8 inches to 52x71 inches
6x8 inches to 36x46 inches	6x8 inches to 55x72 inches
6x8 inches to 54x77 inches	

\*Cannot be adapted to gelatin solutions in this size

## LANSTON MONOTYPE MACHINE COMPANY

MONOTYPE BUILDING, TWENTY-FOURTH AT LOCUST STREET, PHILADELPHIA, PENNA.

Set in Monotype Flash Bold, Stylescript, 20th Century Extrabold, Stymie Medium and Stymie Bold

# SENEFELDER

## LITHOGRAPHIC SUPPLIES

*Everything to make the job easier* ~



Each month we will briefly describe an outstanding item in the Senefelder group of supplies for the lithographer.

### KORDOFAN GUM ARABIC

Gum arabic forms an essential part of the process of lithography as its peculiar properties make planographic printing possible. Utmost care should, therefore, be given to the selection of gum arabic when used for lithographic purposes. It is one of the natural products which chemical science has not yet been able to produce artificially and the prospects of doing so in the future are remote indeed at least so far as lithography is concerned.

For lithographic purposes Kordofan Gum Arabic is the best brand obtainable. Gathered before the rainy season and carefully cleaned this brand is easily soluble in cold water and free from tannic-bearing gums or barks or other detrimental substances. We handle genuine well seasoned Kordofan gum arabic only, selected from the finest crops gathered during the dry season, free from rain damaged material and carefully cleaned. Kordofan Gum Arabic is packed in burlap bags of 220 lbs. each and its price is subject to market fluctuations as stated in our price list No. 1057. Small containers of 7 lbs. sell at 25c per lb.

#### Directions for Dissolving and Preserving:

Gum arabic is insoluble in alcohol and benzol but almost completely soluble in twice its weight of water. For lithographic purposes gum arabic is usually dissolved to a consistency resembling about that of olive oil. The solution, especially when made from natural lumps which have not been crushed or sifted, should be strained before it is being used. Gum arabic solutions turn sour very quickly and sour gum does not give satisfactory lithographic results. It is advisable therefore to dissolve only small quantities of gum arabic at the time so as to avoid waste and disappointments with sour gum solutions.

## The Senefelder Company, Inc.

*"Everything for Lithography"*

32-34 GREENE ST.

NEW YORK, N. Y.

Absorbent Cotton  
Acids, Litho  
Acid Brushes  
Alum Powder  
Aluminum Plates  
Antifin Rubber  
Preserver  
Asphaltum Liquid  
Asphaltum Powder  
Berlin Paper  
Bronze Powders  
Bronzing Pads  
Carborundum Powder  
Caustic Soda  
Cellulose Cleaning  
Paper  
Charcoal Sticks  
Chemicals, Litho  
China Marbles  
Cold Top Enamel  
Collodion Emulsion  
Columbia Paper  
Copierlock  
Cornelin Solution  
Correction Slips  
Counter Etch  
"Convenient"  
Crayon Holders  
Crayon Ink

Crayon Pencils  
Crayon Transfer  
Paper  
Crayons, Litho  
Deep Etch Supplies  
Developing Ink  
Double Etch Salt  
Duralac Lacquer  
Egg Albumen  
Engraving Needles  
Engraving Stones  
Etches  
Excelsior Paper  
Felt Daubers  
Film Filters  
Flannel, Litho  
Flint, Graining  
Fly Cord

Fountain Etch  
French Chalk  
Gamburger Slips  
Gelatin Foils  
Glass Marbles  
Glycerine  
Graining Marbles  
Graining Quartz  
Gum Arabic  
Hand Rollers  
Hydroquinone  
Impression Rubber  
Sheeting  
India Paper  
Ink Mullers  
Ink Knives  
Ink Slabs  
Liquid Tusche

Litho Inks  
Litho Stones  
Lump Pumice  
Magnesia Carb.  
Maple Balls  
Mica Powder  
Moleskin  
Molleton  
Mutton Tallow  
Negative Brushes  
Negative Collodion  
Negative Glass  
Negative Varnish  
Neg-O-Lac  
Nitric Acid  
Offset Blankets  
Offset Inks  
Offset Powder

Opaque  
Palm Oil  
Pens, Litho  
pH Slide Comparators  
Photographic Gelatine  
Platinum Etch Salt  
Plates, Lithographic  
Press Boards  
Printing Inks  
Process Glue  
Process Oil  
Proofing Inks  
Pumice Powder  
Quartz, Graining  
Rolling-up Ink  
Rosin Powder  
Rubber Snake Slips  
Rubbing Stones

Schumacher Slips  
Scotch Hone  
Scotch Slips  
Scotch Tape  
Scraper Leather  
Scraperwood  
Senebumen  
Senelac Varnish  
Sensitizers  
Sharp Etch  
Snake Slips  
Soapstone  
Sponges  
Steel Balls  
Steelclay Marbles  
Stone Cement  
Strecker Salt  
Sulphur Flour  
Tracing Blue  
Tracing Paper  
Transfer Ink  
Transfer Papers  
Transparency  
Solution  
Tusche  
Varnishes  
Wire Brushes  
Zinc Plates  
Etc., Etc.



# MODERN LITHOGRAPHY

LITHOGRAPHED IN THE INTERESTS OF LITHOGRAPHERS EVERYWHERE



## THE COVER

Photo-composing machine at Western Lithograph Co., Los Angeles. One of a series of interior shots taken at Western recently.

January, 1941  
Volume 9 No. 1

WITHOUT A DOUBT THE LONGEST single article we have ever run, our lead story this month, "What's Ahead?", is also somewhat different in that, like many Hollywood movies, it was authored by the largest string of writers we have ever had working for us at one time. Of course, as you will see when you read it, our authors are not really writers in the professional sense, but businessmen. So that is another record. Because, believe us, businessmen are the hardest persons on earth to persuade to write. They haven't the time, and, well, they're businessmen. Hence, we have an article which is the longest we've ever run, and boasts the largest number of writers we've ever had, who aren't writers at all but businessmen—eleven in all. (Page 16)

IF EVER THERE WAS TIME WHEN A businessman needs the counsel and help of an appropriate trade association that time is now. The individual businessman can expect little voice in important decisions affecting his livelihood unless he speaks and acts as a member of a group. With trained men watching important developments and making sure that the lithographer's interests are protected, the individual lithographer can go about his normal business with a heightened feeling of confidence. (Page 25)

## WHAT YOU WILL FIND IN THIS ISSUE

	Page
Editorials.....	15
What's Ahead?.....	16
Busy Year Ahead for Trade Associations.....	25
Lithographers and the Wage-Hour Law in '41.....	28
Calculating the Exposure.....	31
By Lawrence Roberts	
Even the Lithographic Industry Needs a Woman's Touch..	33
Offset Press Operation.....	35
By C. W. Latham	
Offset Platemaking.....	36
By Don Nicholson	
Offset Paper at Work.....	39
By Robert W. Pattison	
Technical News and Literature.....	40
By Kenneth W. Martin	
In and About the Trade.....	43
New Equipment and Bulletins.....	49
Lithographic Abstracts.....	57
Where-to-Buy-It.....	62
Classified Advertisements.....	63
Advertisers' Index.....	65

## MODERN LITHOGRAPHY

Reg. U. S. Pat. Office

GRANT A. DORLAND, President; IRA P. MACNAIR, Vice-President; WAYNE E. DORLAND, Secretary-Treasurer. RICHARD ROLEY, Editor. Published monthly on the 15th by The Photo-Lithographer, Inc., Publication Office, 3201 Arch St., Philadelphia, Pa. Advertising and Editorial Office, 254 W. 31st St., New York, N. Y. ADVERTISING RATES: Advertising rates made known on application. Closing date for copy—20th of the month previous to date of issue. SUBSCRIPTION RATES: \$3.00 per year in the United States, \$4.00 per year in Canada. Single copies, 30 cents. Entry as second class matter is pending at the Post Office at Philadelphia, Pa., under the Act of March 3, 1879.

JANUARY 1941

5

# *If you are using an "improvised"* **COST SYSTEM...**



**Streamline your methods with this new uniform system**

**T**HE National Association of Photo-Lithographers has just published a concise practical accounting procedure, complete with forms, designed for easy installation by any competent bookkeeper.

The contents include cost centers, an explanation of the forms, daily work, monthly work, preparation of departmental hour cost and production, schedule of fixed charges.

*Also included are eighteen full size forms, prepared for your use as original copy on your own camera.*

NATIONAL ASSOCIATION OF PHOTO-LITHOGRAPHERS  
1776 BROADWAY, NEW YORK, N. Y.

Please mail me one complete set of forms and explanatory text, "UNIFORM ACCOUNTING AND COST SYSTEM," now ready for distribution.

☐ We enclose check for \$10.00

☐ You may bill us for \$10.00

(An extra set of unbound forms, ready for your camera, will be included for cash with order.)

FIRM NAME.....

ADDRESS.....

INDIVIDUAL.....

*You can't beat it!*



*for*  
**DENSE SOLIDS  
VIVID CONTRASTS  
DELICATE MIDDLETONES**

*a quality product of*  
**Sinclair and Valentine Co.**

MAIN OFFICE AND FACTORY: 611 WEST 129th STREET, NEW YORK, N. Y.

Albany  
Baltimore  
Birmingham

Boston  
Charlotte  
Chicago

Cleveland  
Dallas  
Dayton

Havana  
Jacksonville  
Kansas City

Los Angeles  
Manila  
Miami

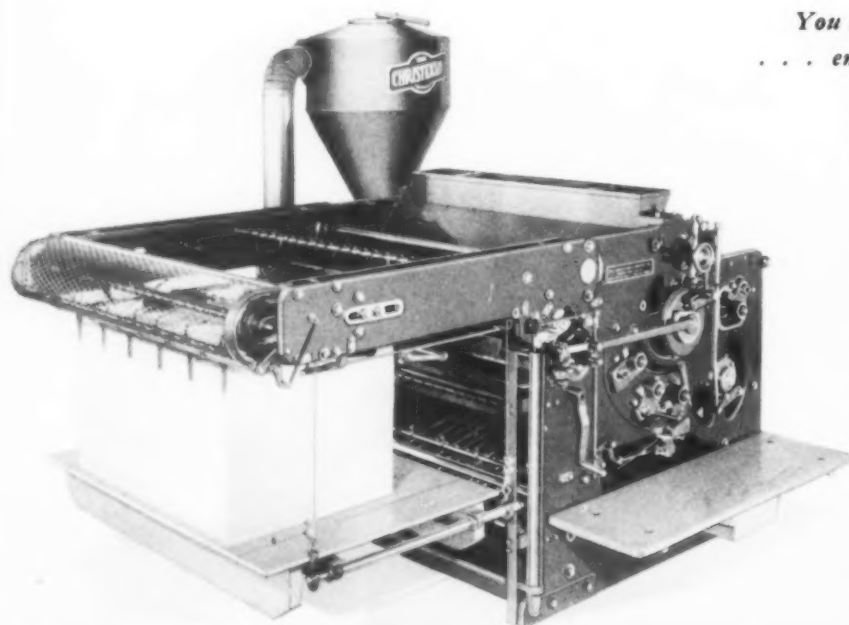
Nashville  
New Haven  
New Orleans

Philadelphia  
San Francisco  
Seattle



Enjoy better-looking work  
 . . . better-paying work  
 — without trouble, bother or delay —  
 with the

# ★ Christensen High-Speed Bronzer ★



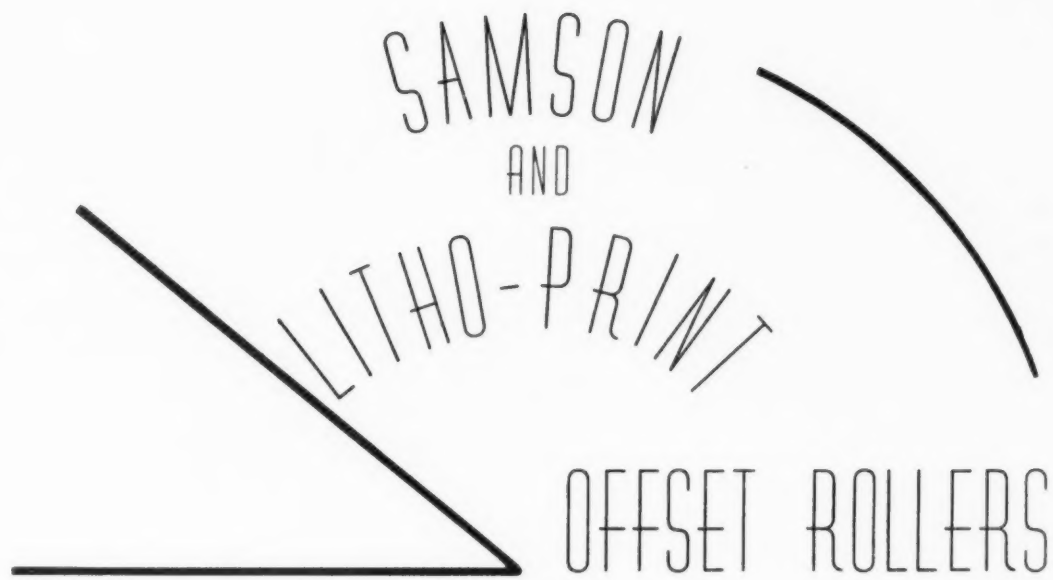
*You say "good-bye" to bronzing "headaches"  
 . . . enjoy fast, clean, profitable operation*

Here's a practical machine that takes bronzing out of the "white elephant" class. Geared to, and driven by, the press. Delivers sheet for sheet in time with fast press equipment, under gripper control. Uniformly dusts both sides of sheet to assure you of attractive work that brings re-orders from well-pleased customers. Exhauster and bronze collecting system help keep pressroom cleaner, healthier. Cost surveys in representative plants where Christensen High-Speed Bronzers are installed show yearly savings of \$2,000 to \$5,000. Write for free copies, and Bulletin No. 103 giving detailed information on the Christensen High Speed Bronzer.

**THE CHRISTENSEN MACHINE CO.**  
 100 Fourth St. Racine, Wisconsin  
*Branch Offices and Distributors in United States and Canada*

**More Profits for You — with Christensen Equipment**





# SAMSON AND LITHO-PRINT OFFSET ROLLERS

**B**INGHAM'S SAMSON (VULCANIZED OIL) and  
LITHO-PRINT OFFSET ROLLERS combine highest quality  
with peak performance at prices no printer can afford to  
miss out on. BINGHAM PRICES are EFFICIENCY PRICES  
because mass production, modern methods and quantity dis-  
tribution enable BINGHAM to provide MORE FOR LESS.  
And BINGHAM'S SIXTEEN strategically located PLANTS  
mean economy, speed and convenience to our customers.

## CHICAGO

ATLANTA	KALAMAZOO
CLEVELAND	KANSAS CITY
DALLAS	MINNEAPOLIS
DES MOINES	NASHVILLE
DETROIT	OKLAHOMA CITY
HOUSTON	PITTSBURGH
INDIANAPOLIS	ST. LOUIS
	SPRINGFIELD, OHIO

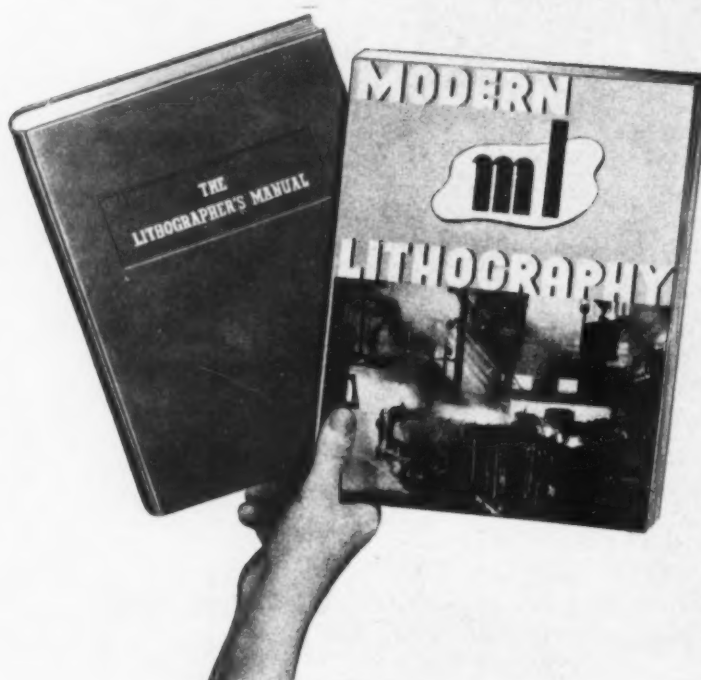
### Also distributed by

California Ink Co. . . . .	San Francisco
Dry Climate Ink & Roller Co. . . . .	Denver
McKinley Litho Supply Co. . . . .	Cincinnati
Harrigan Roller Co. . . . .	Baltimore
Dorsey Printers Supply Co. . . . .	Memphis

# SAM'L BINGHAM'S SON MFG. CO.

Read this!

# Unusual COMBINATION OFFER!



THE  
LITHOGRAPHER'S  
MANUAL

368 PAGES

GENEROUSLY  
ILLUSTRATED

WRITTEN BY  
EXPERTS

PRICE \$5.00

MODERN  
LITHOGRAPHY

LITHOGRAPHED  
MONTHLY  
MAGAZINE

COVERS THE  
ENTIRE INDUSTRY

PRICE \$3.00 A YEAR

## THE OUTSTANDING BARGAIN OF THE YEAR!

### PLAN A

\$5.00 Lithographer's Manual  
\$3.00 One year's subscription

Total ~~\$8.00~~  
Combination offer \$6.50. You save \$1.50

### PLAN B

\$5.00 Lithographer's Manual  
\$6.00 Two year's subscription

Total ~~\$11.00~~  
Combination offer \$7.50. You save \$3.50

### PLAN C

\$ 5.00 Lithographer's Manual  
\$12.00 Four subscriptions

Total ~~\$17.00~~  
Combination offer \$11.00. You save \$6.00

MODERN LITHOGRAPHY  
254 West 31st St., New York, N. Y.

I would like to take advantage of your combination offer. Please send me the LITHOGRAPHER'S MANUAL and enter my subscription to MODERN LITHOGRAPHY as per the plan checked below. Enclosed is check (or money order) to cover in full. Foreign and Canada add \$1.00 per year for each subscription and \$1.00 for each MANUAL.

PLAN A ☐ PLAN B ☐ PLAN C ☐

NAME.....

COMPANY.....

ADDRESS.....

CITY..... COUNTRY.....

TYPE OF BUSINESS..... POSITION.....

at low cost - - -

We are making available to the entire lithographic industry these two outstandingly informative publications. MODERN LITHOGRAPHY, issued monthly to keep you in touch with the latest developments in the industry, lithographed throughout, and the new revised LITHOGRAPHERS MANUAL, 368 page reference Manual on selling, management and production problems. Can you afford to be without them at these prices? Why not fill out and send in the coupon now?









*for*

*metal decorating supplies*

# HARD

## EYE APPEAL

HARD-TEX inks are available in a complete range of brilliant and concentrated colors which give wide scope to the artist in planning attractive can decoration.

## DURABILITY

HARD-TEX adheres firmly when applied to plain or sized metal and particularly on the modern synthetic coatings. This is of decided advantage where work is to be fabricated. Their non-porous glossy surface makes it possible to reduce the amount of finishing varnish and still secure a lustrous finish.

## ECONOMY

HARD-TEX Inks offer many savings to the metal decorator. They bake much harder in shorter oven time and at lower temperatures. When properly baked they permit the flat stacking of sheets without danger of sticking or offsetting. Will eliminate rehandling and minimize spoilage caused by scratching and marring and in many cases, due to the hard glossy film, the application of a finishing varnish is not necessary.

# TEX

*Handwritten signature*

THE FUCHS & LANG MFG. CO.

BOSTON CHICAGO CINCINNATI CLEVELAND DETROIT  
PHILADELPHIA PITTSBURGH SAN FRANCISCO ST. LOUIS  
TORONTO





The diagram illustrates the dampening system components and their arrangement. It includes a large 'PLATE CYLINDER' and a 'BLANKET CYLINDER'. Above the plate cylinder is an 'INKING ROLLER'. To the right of the plate cylinder are several smaller rollers: 'Squeegee & Roller Runners', 'Ducton Roller Cloth', 'Former Roller', 'Wiper', 'Blanket Roller', and 'Lower Ducton Cloth'. Arrows indicate the flow of the dampening process from the inking roller through the various rollers and cylinders.

# FUCHS & LANG

## VENSET

### *dampening equipment*

A really major improvement in the dampening method of any lithographic press. . . . Practical and simple to install, it requires no complex mechanical alterations and it is not necessary to change the general routine of the press. . . . In operation it needs no special attention and once installed it requires no further setting or changing. It gives a positive, uniform control over the water application on the plate, so necessary for proper lithographing, be it the finest screen work or the heaviest solid. . . . This ingenious arrangement, in addition to improving and simplifying the dampening operation, affords a decided saving in the cost of replacing dampers. . . . It has been in operation in several plants for almost two years and has proven its worth in better production and improved quality of the work. . . . It is available at present for all types of Metal Decorating Presses.

**The FUCHS & LANG MFG. CO.**

(ESTABLISHED 1870)

DIVISION GENERAL PRINTING INK CORPORATION  
 BOSTON CHICAGO CINCINNATI CLEVELAND  
 PHILADELPHIA ST. LOUIS SAN FRANCISCO  
 FORT WORTH LOS ANGELES TORONTO, CANADA







# Here it is!



## THE NEW ROBPORT BLANKET

We said to an offset pressman the other day, "If you were asked to describe the perfect rubber blanket, how would you do it?"

The pressman scratched his chin whiskers a minute and gave us a sly look.

"Well," he commenced, "I'd say first of all the perfect rubber blanket should be made of the highest grade fabric possible so it would be good and strong. I'd say the blanket should be surface-treated with care and attention so it wouldn't stretch. Then I'd say it should have the following characteristics: resistance to tear and fractures; resistance to tackiness, embossing, blistering and engraving; absolute uniformity of

thickness, plus a desirable resiliency. If it had these characteristics, it would be a perfect blanket."

"Do you know of such a blanket?" we asked.

"What are you trying to do, pull my leg?" said the pressman.

"No, why?" we wanted to know.

"Because," he said, "the ROBPORT BLANKET, **your blanket**, is such a one as I have described. **You know that!**"

Yes, we do know it. But we wanted to hear someone else say it so we could say to you: **HERE IT IS!** and you'd know **exactly** what we mean.

# ROBERTS & PORTER

I N C O R P O R A T E D

New York: 100 Lafayette St. Phone: CAnal 6-1646

Chicago: 402 S. Market St. Phone: WABash 6935

CANADIAN AGENT: CANADIAN FINE COLOR CO.  
240 LOGAN AVENUE • TORONTO

For printed materials that really "pack a punch", the critical user considers color, finish, opacity, bulk, strength and cost and specifies



## EQUATOR OFFSET

because this pure-white, fuzz-free paper responds to every requirement of fine offset printing as smoothly and faithfully as a champion.

EQUATOR OFFSET • EQUATOR INDEX BRISTOL • CREAM SOREX • WHITE SOREX •  
VALLEY CREAM POSTCARD • MIDDLETOWN POSTCARD • BUCKHIDE TAG • No. 1 JUTE TAG

Above items carried in stock at mill, and a wide variety of special papers made to order.

### THE SORG PAPER COMPANY • MIDDLETOWN, OHIO



New York: Chanin Bldg. . . . Chicago: Daily News Bldg. . . . Boston: C. H. Dodge, 10 High St. . . . Los Angeles: N. L. Brinker, 943 N. Main St. . . . St. Louis: H. E. Bouis, St. Louis Mart Bldg.



## RELIABLE LITHOGRAPHIC PLATE CO., Inc.

*The Pioneer Plate Grainers of America*

ALL PLATES  
INCLUDING THOSE  
REGRAINED FOR  
MULTILITH  
ARE MARBLE  
GRAINED

**"R**ELIABLE" is far more than just part of our name. It means to our customers that our plates can be depended on to give first-class results because from start to finish the graining is handled by experts of long experience. Our plates are made right to work right—they are reliable!

We carry a full supply of Zinc and Aluminum Sheets for Offset, Rota-print Presses, in fact for all the lithograph trade.

MILL  
SELECTED  
METAL  
USED  
EXCLUSIVELY

(MADE IN U.S.A.)

*A trial order should "sell" you our services and products.*

### RELIABLE LITHOGRAPHIC PLATE CO., Inc.

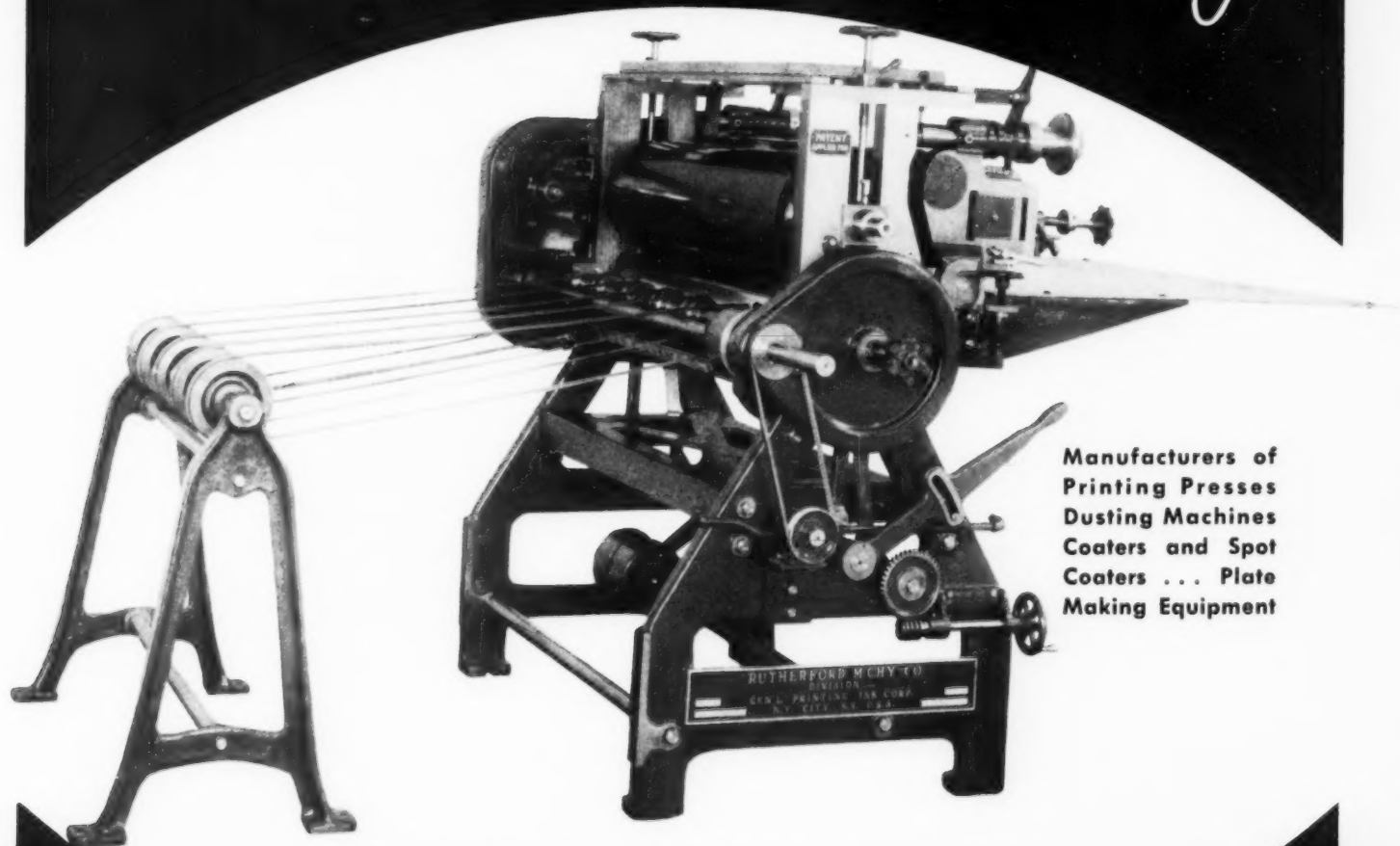
INCORPORATED 1916

17-27 Vandewater St. and 45 Rose St., New York, N. Y. • Phone: BEekman 3-4542  
3-4531



# RUTHERFORD

## *Metal Decorating* EQUIPMENT



Manufacturers of  
Printing Presses  
Dusting Machines  
Coaters and Spot  
Coaters . . . Plate  
Making Equipment

STREAMLINE COATING MACHINE

### RUTHERFORD MACHINERY CO.

DIVISION · GENERAL PRINTING INK CORPORATION

100 SIXTH AVENUE · NEW YORK

CHICAGO · SAN FRANCISCO · TORONTO · MONTREAL



● Sealed in a moisture-proof, trade-marked wrapping, *Moistrite Offset* is perfectly protected from paper mill to pressroom. And it's *worth* protecting, too! Here is a sheet that's safe, smooth and uniform in color and texture. Here is a paper, backed by the resources of a great corporation. Here is a stock, made with all the skill, care and ingenuity that modern methods demand and modern machinery can produce. Here is a tub-sized, mill-conditioned product that will perform brilliantly on full-color or black-and-white work. The *Moistrite Offset* Portfolio—yours for the asking—pre-

## MOISTRITE OFFSET IS PROTECTED

sents circumstantial  
evidence to convince

the most critical judge. Write today  
for *your* copy.

# The MEAD CORPORATION

**MEAD**  
*papers*

"PAPER MAKERS TO AMERICA"

THE MEAD SALES CO. . . 230 Park Avenue, New York City  
DILL & COLLINS INC. • WHEELWRIGHT PAPERS, INC.  
New York • Philadelphia • Boston • Chicago • Dayton • Kingsport

{ Offering a completely diversified line of papers in colors, substances, and surfaces for every printed use, including such famous grades as Moistrite Bond and Offset, Wheelwright Bristols, D & C Richgloss Enamel and Canterbury Text.

MODERN LITHOGRAPHY

# EDITORIALS

**P**RELIMINARY census figures compiled from returns of the Census of Manufacturers for 1939, taken by the U. S. Bureau of the Census, have been released and they present a bright picture of the progress made by the lithographic industry. The value of products produced by lithographers in the United States in 1939, according to the report, reached a total of \$154,394,787. This compares with a total of \$129,244,274 in 1937, according to census statistics, or a gain of 19.5 per cent. Obviously the preliminary figures, as compiled by the Census Bureau, are somewhat inaccurate and on the low side, since only the products of 749 lithographic establishments are reported. The trend, however, is unmistakable. The lithographic industry continues to expand.

The biennial census figures for 1937 revealed a gain of 49.6 per cent over 1935 in the value of lithographed products, while the 1935 report showed an increase of over 35 per cent as compared with 1933. An over all comparison shows in 1939 an increase of over 126 per cent in six years, or since 1933. Thus, there is no mistaking the impressive upward trend. If the percentage of increase was somewhat lower in 1939 as compared with the three previous biennial census years, lay it to the fact that the industry has begun to consolidate its gains.

Of course, there are a number of contingent factors that must be taken into account in the picture given above. It would be hasty to jump to the conclusion that because the value of lithographed products increased 19.5 per cent in the past two years that production was up an equivalent amount. The effect of increased wage costs brought about by the Wage-Hour Law, and the general increase in the prices of raw materials and equipment were beginning to be felt in 1939. However, while there were increases in both materials and wages in 1939, according to the report, the proportion was not as great as the increase

in value of products. It is safe to say the industry has registered a healthy gain. At the end of this year another census will be taken, covering 1941. The effect of the Wage-Hour Law and higher prices, as a result of the war abroad and our own defense program, will be more marked. It will be interesting to see what progress is made then.



**W**HATEVER the 1941 census report reveals the contingent factors will be far more numerous and complex than they were in 1939. The lithographer during the months to come will have to keep his weather eye peeled and his ear to the ground. In that connection we hope he will read closely the articles in this issue, giving a resume of probable trends, and the opinions of equipment and supply manufacturers and trade association secretaries. The supply manufacturer, needless to say, is vitally interested in the future of the lithographic industry. He wants to see it continue to grow. But during 1941 he may have another job on his hands—that of helping to supply the defense needs of the Nation. And they will take preference over other demands. He will have no other alternative. Therefore, if deliveries are not made as rapidly as they once were, if there should happen to be a temporary shortage in any of the raw materials or equipment essential to lithographic manufacture—though none is in sight or anticipated—the lithographer must have patience and cooperate. This is a thing we are all in together. So work closely with the equipment and supply manufacturer during coming months. It will help him and yourself. That's only common sense.



# What's Ahead?

**SHORTAGE OF SKILLED HELP?**

**INCREASED PAYROLL COSTS?**

**INFLATION?**

# 1941

**PRIORITIES?**

**FIXED PRICES?**

**BOOM YEAR?**

**HIGHER OVERHEAD?**

**INCREASED PRODUCTION COSTS?**

**MORE TAXES?**

**SHORTAGE OF SUPPLIES?**

**SHORTAGE OF EQUIPMENT?**

**T**HE lithographer is hedged in and about by a hundred conflicting and perplexing questions as 1941 gets underway. What are the answers?

Ask the sagest greybeard and he'll tickle his chin whiskers and look down his nose. But he won't have any answers. He doesn't know—no one knows.

Will there be a shortage of raw materials for the lithographic industry in 1941? Will there be a shortage of durable goods? Will there be increased production costs, a shortage of skilled labor, a general price inflation?

There is no point in saying that these insistent questions don't exist. At the same time, there is no point either in getting unduly excited over their presence. Naturally, they're disturbing, but

an ostrich-like attitude on the part of the lithographic industry will not help. If the potential problems are faced squarely, analyzed as far as is humanly possible, perhaps they can be prepared for, or at least anticipated.

He who cries "wolf" may be looked upon askance, but he will be better off in the end than the fellow who won't believe there are any wolves.

For the purpose of informing the lithographer on all of these broad questions, MODERN LITHOGRAPHY, with the help of equipment and supply manufacturers in the industry, has prepared in the following pages as sober and honest an analysis of the picture as it could.

One of the major potential problems which looms large is the threat of price

inflation. Much is being said and written about price inflation. Scarcely a day goes by that the American business man is not made conscious of it by references in the press and over the radio. If it comes there will be a marked decline in the purchasing power of all income by means of a rise in the price of nearly everything. This would seriously affect all business.

In the lithographic industry, specifically, it would mean an increase in the price of lithographic equipment—presses, cameras, rollers, blankets, composing machines, platemaking equipment, folders, air conditioners, lenses, etc.—and in the price of lithographic materials—paper, ink, chemicals, graining materials, films, etc. It could, conceivably, retard the industry's progress.



By Ewing Galloway

**Are there enough raw materials, unproductive plant capacity, skilled workers, tools and engineers in the United States to provide for the needs of the defense program and at the same time provide for civilian consumption? On the answer to that hangs many another question facing industry and business during the months ahead.**

However, if inflation is to come, if it cannot be averted, then we think it should be recognized and discussed and the lithographer made to prepare for it insofar as is possible. The lithographer should be provided with the best information available to assist him during the coming year in the formulation of an alert and flexible fiscal policy.

**T**HE threat of inflation rests almost entirely on whether or not there are enough raw materials, unproductive plant capacity, skilled workers, tools

and engineers in the United States to provide for the needs of the defense program and at the same time to provide for civilian consumption. In other words, on whether total demand—defense plus civilian—is equal to the total available supply. If the total demand exceeds the available supply, then prices will be inflated and purchasing power decline.

Since the heaviest demands of the defense program are concentrated largely in the durable goods and chemical goods industries, upon both of which the lithographic industry is dependent, the

threat of inflation must be regarded seriously.

Hence, *will* the lithographic industry be in competition with the defense program during the coming months? *Will* this, therefore, result in higher prices and a consequent decline in the purchasing power of the lithographic industry? *Will* it be necessary for the lithographer to restrict his consumption of articles from the durable goods industries and the chemical goods industries during the coming months? What *kind* of a purchasing policy should the

lithographer adopt for the first three months of 1941—long range or short range? *What* should his policy be towards expansion of plant and capital investment during the forepart of 1941? *Will* it be a good time for the newcomer to enter the lithographic industry? These and many other questions occur when the possibility of inflation is considered.

What are the answers?

How real is the threat of inflation? Says Walter Lippmann, well-known commentator: "Much has been said about the danger of an inflation. In general, the fear of inflation is like the fear of a very cold winter at the beginning of a rather warm summer. For while it is true, that eventually an inflationary condition may be created and that, therefore, the danger must be resolutely kept in mind, in fact, our condition today is not inflated."

He warns, however, that a potential tendency towards inflation is present from the fact that the heaviest demands of the defense program are concentrated largely in the durable goods industries where capacity cannot be expanded quickly.

"What we face, therefore," he summarizes, "is not a general inflation in the whole cost of living, but a selective inflation in those industries which are closely connected with the defense program. It may be necessary," he tells us, "to restrict gradually the civilian consumption of articles which come from the durable goods industries. In other words, to determine priorities in the use of purchasing power."

Some three weeks after this statement Leon Henderson, defense commissioner in charge of price stabilization, warned that the defense administration is getting ready to take action to prevent price increases in basic materials from starting an inflation spiral. He says that as a result of recent mark-ups in the price of scrap, pig iron, coke and other materials essential to steel manufacture, efforts must be made immediately to control the situation.

The Alexander Hamilton Institute, in its year-end report published near the end of last month, in commenting on expenditures by the Federal government, pointed out that for the first five months of the current fiscal year, which began on July first, expenditures were

only slightly larger than in the same period last year, despite the defense program.

Therefore, the report concludes, "if the expected annual total of thirteen billion dollars deficit financing is attained in the coming months, there is a good possibility that there will be some evidence of the beginning of an inflationary movement."

President Roosevelt, in his talk to the nation recently, said that the present national emergency should be thought of as "a war-time emergency." He emphasized this point, so that its full significance was unmistakable, by declaring that the "business as usual" philosophy was not compatible with the present situation. Hence, while the United States is theoretically at peace, actually she is engaged in a war-time mobilization of her industrial resources comparable to the days of World War I. This is the only interpretation possible from the President's address.

So inflation is in the air. What can be done about it? Any broad steps, of course, such as price control will have to be taken by the Federal government.

A pamphlet recently published by the New York University School of Commerce entitled "War Time Price Control" is extremely pertinent in view of the President's talk. Written by Jules Bachman, instructor in economics at the University, the pamphlet says, "Modern warfare usually results in a severe disruption of the economic system. The extraordinary demands of war, added to the ordinary demands of peace time, cause the total demand to exceed by far the available supply and prices tend to rise as the limited resources are bid for by those buyers with the most urgent needs and the necessary purchasing power. In addition to abnormal conditions of demand, a dislocation of markets and all sources of supply also occurs. The combination of the above conditions together with the inflationary tendencies inherent in the financing of modern wars leads to sharp rises in prices. The main effect of rising prices is to increase the cost of the war and to lead to a vicious spiral of wage and price rises."

**O**F course, press manufacturers and other equipment and supply people in the lithographic industry are not

economists, but a great many of them do have thousands of dollars of defense production on order. Their opinion as to whether these orders will conflict with the normal demands of the lithographic industry, whether, in fact, there are signs of an inflationary trend, should be valuable. We have, therefore, asked for their comments and they have generously cooperated.

Says one large paper manufacturer who prefers to remain anonymous, "It seems to me that all industry will be in competition with the defense program during the coming months, and perhaps years, but of course the degree will differ for different industries. From what I know of the lithographic industry . . . I don't see how it can escape this competition because many of the suppliers of this industry will undoubtedly supply defense materials. This may mean either increased prices for the materials they are expected to supply the lithographic industry or a shortage of such materials or both." His complete statement follows:

**I APPRECIATE** your request for my views on the effects of possible inflation to the lithographic industry. By inflation I presume you mean the rising spiral of cost and selling prices resulting from heavy demand and production, which finally results in the decreased purchasing power of the dollar.

"It has been very interesting to hear the various arguments for and against the possibility of such inflation, and the result is very confusing. The major argument of one group seems to be that all previous experience indicates that a record-breaking national debt to start with, plus material increase due to war preparation, will result inevitably in higher prices all around. The other argument seems to be that controls of various kinds will prevent such inflation in spite of the national indebtedness.

"In spite of record-breaking production, particularly in the heavy industries, there has been very little evidence up to the present time of rising prices for raw materials and finished goods. This is not so true of labor, which in recent weeks has been voicing demands for increases. Labor should have its full share of the returns from increasing industrial activity, but if any element which may contribute toward the inflation spiral is not kept in balance with the others, it is difficult to see how some inflation



could be avoided. Up to the present time those engaged in business seem to remember the experience during and after the last war, and seem to be trying very hard to profit from that experience. Probably the machine exists for controlling the various factors which might cause inflation, but that machinery has not been tested out under conditions such as we are likely to experience. Trying to balance the maze of conflicting factors, it would seem to me that we are bound to have some advances in prices of labor, raw materials and finished goods. There may be lags in some elements, and maladjustments in the process of advance, but that severe inflation which every business man has learned to fear is not a definite prospect.

"It seems to me that all industry will be in competition with the defense program during the coming months, and perhaps years, but of course the degree will differ for different industries. There is hardly an industry which will not contribute directly or indirectly to the defense program, or be affected directly or indirectly by competition for its raw materials or its labor supply. It appears that the people of this country, and particularly labor and industry, do not yet understand the meaning of total warfare or the total effort which must be made to compete successfully in such warfare. Without such understanding, the proper degree of cooperation cannot be secured for complete success in this effort. Without such cooperation, some forms of compulsion probably will have to be adopted and then our industries will probably understand more definitely the nature of their so-called competition with the defense program. From what I know of the lithographic industry, I do not see how it can escape this competition, because many of the suppliers of this industry will undoubtedly supply defense materials. This may mean either increased prices for the materials they are expected to supply the lithographic industry, or a shortage of such materials, or both. From current prospects it is not necessary to assume that either effect will be great enough to seriously injure the industry.

"If the lithographic industry is to pay more for its raw materials and its labor, and does not get a corresponding increase in the price for its product, it would necessarily suffer from the effects of any degree of inflation. Perhaps this might be considered as one of the most difficult problems for the industry to surmount. From an outsider's point of view, it does not appear that the

printing industry as a whole has been too successful in the past in getting a fair return for the service it has performed. Under the conditions which may be anticipated in the future, it would seem that this deficiency might be of more than usual importance.

"Under the prospective conditions of increased consumption of raw materials and finished goods, and especially in view of the fact that much of the production will be for the destruction of wealth rather than for its creation, it would seem that any purchasing policy should look further ahead than has been necessary during the last 7 or 8 years. This is one of the most difficult problems which business management has to face. It is unwise to purchase far enough in advance so that a shortage of commodities is created temporarily or otherwise, or so far in advance that such purchasing becomes speculation. On the other hand, provision should be made to guard against possible shortages, slowing up of transportation, and to provide for increased demand which in itself is extremely difficult to estimate. The average estimates for industrial production in 1941 over 1940 show an increase of about 8 to 10%. If the demand for the product of an individual business can be associated, even roughly, with the index of industrial production, this factor is probably the best indication available at the present time of the future demand. Purchases of raw materials, which in the estimation of the individual business may be in increasing demand, might be made to cover these prospective requirements, not so much for the purpose of protection against increasing prices but for insurance of adequate supply.

"The one experience of World War I which seems to stand out in the memory of business management is the expansion of plant facilities to meet a temporary demand created by war conditions. Reluctance to increase productive capacity seems to be very evident in all industries. Apparently the printing industry has had considerable difficulty in finding sufficient demand to take care of present capacity. This may be one important reason for the unprofitable conditions which seem to have prevailed in this industry. If this condition is true, it would seem unwise to invest additional capital in the expansion of production facilities unless there is definite prospect of paying for such investment within two or three years, or of employing such additional facilities profitably when production of war goods declines.

"In estimating the activity of the

lithographic industry during this period of heavy production, some thought should be given to the relationship of the possible demand for printing and the possible demand for other goods which make up the index of industrial production. Most of the increase which has occurred so far is in the heavy industries. The increase in consumer goods has amounted to only 5 to 7%. Experience seems to indicate that the demand for printing fluctuates more directly with demand for consumer goods than with the demand for the products of the heavy industries. Probably the use of consumer goods will increase as a result of increased activity in the production of war commodities, but the lag which is already in evidence may continue. It would be somewhat safer to assume that the same degree of production, which will be registered by the index of national industrial production, will not be enjoyed in the printing industry. This factor associated with the probability that the present and prospective high rate of production of capital goods is caused by what we hope is a temporary war condition, should lend a note of conservatism to future planning in the lithographic industry.

"Since the above indicates the possibility of increasing costs and the possible difficulty of increasing returns proportionately, it seems like a pessimistic outlook for the lithographic industry. It is probable, however, that methods can be employed to overcome this difficulty. One method which deserves careful thought by management in this industry is its selling function.

"There is every reason to believe that the selling of printing can be improved. Printing must be considered a salable commodity in the same classification with the various kinds of consumer goods with which we are familiar. Present buyers of printing can be induced to use more printing, and they can be induced to step up the quality of the printing they are now buying to gain more appeal and effectiveness. There are some concerns which have goods to sell but use practically no printing in comparison to the dollars they spend in other kinds of selling. These people can be induced to use a considerably greater quantity of printing.

"In order to sell more and better printing to these two classes of buyers, ideas are needed and presentations are required which will arouse their interest and create a desire in their minds to use printing as a more active agent in selling their goods. Demand for consumer goods or retail trade will undoubtedly in-

crease with increased purchasing power of the public. This will create a larger market for goods of all kinds. The sellers of those goods thus have better opportunity to dispose of their wares.

"To take full advantage of this opportunity, they must tell their potential customers of the services they have to offer. The printed word is one of the best ways of imparting this information. Thus a larger potential demand should exist for printing, and a larger and more receptive field should exist for the selling efforts of the printer. There is every reason to believe that the members of the lithographic industry can get a substantial return on the investment they make in improved selling methods to offset some of the disadvantages which they may have to face in the next few years."

H. M. Tillinghast, president of R. Hoe & Co., New York, points out that while the majority of well-informed opinion seems to think that a price inflation is to be expected, it will, however, in no sense be a wild inflation. Says Mr. Tillinghast: "Unusually heavy demands have been and will be made on the facilities of the machinery building industries. The defense program is placing unprecedented demands on the resources of the country . . . the progressive lithographer should, therefore, in my opinion," he concludes, "give first consideration to proceeding with plans for plant and equipment expansion so that the manufacturer may properly work out production schedules designed to take care of such business as well as contribute the facilities of his plant to the nation-wide efforts being made in defense work."

Mr. Tillinghast's comment follows in full:

"THE effect of inflation, should it come, on the present progressive policy of the lithographic industry, is so broad a subject and affected by so many diverse factors that anyone other than a professional analyst runs the grave risk of appearing either superficial or overwise in voicing anything but a general opinion. A composite Babson, Allen and Ayres could do better justice to the subject, but as you say this question is mighty important and I feel the more general discussion given it the better informed we all will be. Therefore I will venture a few comments of my own.

"The consensus of generally well-informed opinion appears to be that



a 'price rise' inflation is to be expected which, however, will be in no sense 'wild inflation.' Of course, a readily accepted fact is that there is a wide difference between the theoretical management of money and the practical application of such theories, but apparently it is universally recognized that the administration has made clear its desire and intention to prevent sharp commodity rises.

"It seems to me that the thought we all should keep in mind is that under existing circumstances with the financial and production picture changing from month to month, one might say even from week to week, there is a real need for calm study of all factors affecting our economic life, in order that the changes may be directed by considered foresight and thus utilized profitably.

"Unusually heavy demands have been and will be made on the facilities of the machinery building industries. The defense program is placing unprecedented demands on the resources of the country, but from all indications the efforts of the National Defense Advisory Commission will result in unifying the vast productive resources and act as a stimulant to industrial output rather than a retarding element.

"Another generally held opinion appears to be that fear of inflation that will drastically affect the general business picture has been greatly over-emphasized.

"We can, therefore, conclude that the best general policy is to proceed with plans for the coming year with the main thought that the utilizing of idle plant capacity and man-power will be the most important check against any severe inflation.

"The progressive lithographer should, therefore, in my opinion, after weighing the problems affecting his particular scope of operations, give his consideration to proceeding with plans for plant and equipment expansion so that the manufacturer may properly work out production schedules designed to take care of such business as well as contribute the facilities of his plant to the nation-wide efforts being made in defense work.

"The lithographer who at this time places his order for new equipment, especially press equipment, to replace obsolete machines or those on the borderline of obsolescence would not only solidify his competitive position but would eliminate to a large degree the possibilities of delays in delivery which might develop on orders placed at a later date.

"This also applies particularly to replacement parts for existing lithographic presses. Delays in securing delivery of raw materials and the great difficulty of putting through emergency repair orders without seriously interrupting existing production schedules makes it obvious that a definite advantage to the lithographer lies in taking inventory and anticipating normal replacements for the coming six months, at least, and placing orders at this time, thus taking out the best possible insurance against operation delays."

A large ink manufacturer gives as his opinion that "during the coming months money will decrease in purchasing power, hence in value, and thoughtful employers will convert profits and cash surpluses into fixed assets like machinery and plant. The factors which bring about inflation," he informs us, "are already operating, but the important thing is not where or when does inflation start, but where will it end? At the risk of being thought an economic fatalist," he concludes, "in my opinion the conditions which will halt an inflationary trend are beyond the control of the lithographic industry or of any industry or group of industries. We must accept the consequences of inflation as they come and endeavor to adjust ourselves to them as rapidly and effectively as possible."

The ink manufacturer's complete comment is as follows:

"THE effect of inflation on the lithographic industry will be very much the same as the effect of this economic trend on hundreds of other industries. Raw materials will increase in price. The cost of services will rise. Wage scales will be adjusted to meet the ever-climbing price index, but these wage increases will be inclined to lag behind the general inflationary movement. Money will decrease in purchasing power, hence in value, and thoughtful employers will convert profits and cash surpluses into fixed assets like machinery and plant. Holders of raw material stocks will be reluctant to

MODERN LITHOGRAPHY



sell, anticipating the profits of a rising market. Buyers will be more anxious to unload cash and accumulate stocks, and this will tend to force prices to accelerate even more rapidly.

"This is the economic theory of inflation, based on the oldest economic law—the law of supply and demand. Only twice in the history of America have we had inflation, and neither time was the effect of this inflation far-reaching or long extended. In Europe, the period 1919-1925 brought the most pronounced period of inflation that the world has ever known, and particularly in Germany and Russia, inflation and its results reached fantastic levels. At the end of 1923, there was in circulation in Germany currency amounting to the astronomical figure of 74 million billion marks, with an actual cash valuation of 722 million marks. Obviously, in such an inflationary chaos, conducting a business of any kind is a nightmare.

"Inflation is a gradual process. The factors which bring it about are already operating today. But the important thing is not where or when does inflation start. It is, where will it end? At the risk of being thought an economic fatalist, in my opinion, the conditions which will halt an inflationary trend are beyond the control of the lithographic industry or of any industry or group of industries. We must accept the consequences of inflation as they come and endeavor to adjust ourselves to them as rapidly and efficiently as possible. And we must hope that before the point is reached where inflation endangers our whole economic system, the balance wheel of commerce will level out the upward surge which, uncontrolled, can uproot the foundations of financial order."

T. R. Jones, president of American Type Founders, Inc., Elizabeth, N. J., whose company recently announced the construction of a new plant to handle increased defense production, says that while "there is at the present no indication of a shortage of these products (meaning metals and chemicals), on the basis of the old law of supply and demand, there will be a tendency for prices to rise. As against this, the government itself will undoubtedly do everything possible to restrain speculative buying and to see that price advances are kept within justifiable limits."

He adds: "It is also obvious that while this defense program is underway, the effects of any shortage which may

occur, whether in raw materials, in skilled workmen or in productive capacity of plant, will first be felt by the private consumer. Government demand will take precedence over private demand. With respect to the printing equipment business, it is already heavily involved in the defense program with some 22% of its normal annual output being diverted to its channels."

Mr. Jones points out that while there is "no immediate prospect for a shortage of printing equipment, there is a likelihood that deliveries, both of new equipment and replacements, will be slowed up." He warns, too, that "the lithographic industry may find itself suffering from a shortage of technically proficient operators to meet the increased demands for fine work."

Mr. Jones' full statement reads as follows:

**I**F there is one thing that business men have learned during the past ten years, it is that crystal gazing is a dangerous pastime. A world in which new social and economic forces of incalculable magnitude and velocity have been let loose is no place in which to practice the art of prophecy.

"You have asked me to express an opinion as to the probability of an inflationary rise in prices in this country and as to the probable effect upon the lithographic industry of the present world emergency. I can only say that I do not know.

"The best that any business man can do today is to keep constantly aware of the known factors in the current situation and to interpret them as best he may for as short a period in advance as is consistent

with the type of business he is conducting.

"We do know that our Government is committed to a defense program which will involve the expenditure of from 20 to 50 billion dollars during the next five years. This is equivalent to the establishment of a new industry at least as great as the automotive industry. It will involve the consumption of enormous quantities of raw materials and will absorb the efforts of an army of workmen.

"Obviously, under such conditions, the demand for certain products, especially of metals and chemicals, will be greatly enhanced. There is at present no indication of a shortage of these products, but on the basis of the old law of supply and demand, there will be a tendency for prices to rise. As against this, the Government itself will undoubtedly do everything possible to restrain speculative buying and to see that price advances are kept within justifiable limits.

"It is also obvious that while this defense program is under way the effects of any shortage which may occur, whether in raw materials, in skilled workmen or in productive capacity of plant, will first be felt by the private consumer. Government demand will take precedence over private demand.

"With respect to the printing equipment business, it is already heavily involved in the defense program. More than \$17,000,000 in munitions orders have been placed with the industry, in addition to a considerable number of special Government printing equipment orders. This represents some 22% of the normal annual output of the industry.

"In order to protect their regular customers, many equipment makers are building additions to plants to handle this emergency work. There is no immediate prospect of a shortage of printing equipment, although there is a likelihood that deliveries both of new equipment and replacements will be slowed up. An intensification of the defense program or the development of a shortage in one or another of the basic raw materials might alter this picture.

"There is, in my opinion, a definite probability of increased demand for the products of the lithographic industry arising both from the Government and from private business. A recent survey by the Association of National Advertisers indicates that some 56% of its members have already planned increases in advertising budgets for 1941, some of them rather substantial.

"There is likewise a probability, I believe, that the consuming public will demand a constantly rising





standard of work from the lithographer. There is every indication, for example, that more and better color work will be called for. If this occurs, it will mean more impressions for the lithographic industry to turn out, and this will require more impression cylinders, whether these be all on one press or on a series of presses.

"Furthermore, what between the draft and the demand for skilled workers because of the defense program, the lithographic industry may find itself suffering from a shortage of technically proficient operatives to meet the increased demand for fine work. It therefore behooves the industry to take advantage of all the mechanical short-cuts and devices which promise to improve the quality of work without unduly increasing the amount of hand operation required by the process.

"In short, it is my judgment that the lithographic industry should now be preparing itself for better and faster production not so much from fear of price inflation as to meet the demands which are likely to be made upon its production facilities."

Expressing his opinion that "while every industry in the country will be in direct competition with those industries engaged in the defense program," Harry Grandt of Roberts & Porter, New York and Chicago lithographic supply house, adds that "rather than cause a decline in the purchasing power of peace time industries, however, the immediate outlook is optimistic, based on the fact that, generally speaking, consumer industries are not producing nearly up to capacity." He suggests, however, that "lithographic plants requiring better or new equipment should act as soon as possible," warning that the "basic element for a commodity inflationary movement pervades the market."

Mr. Grandt's statement follows herewith in full:

"**E**VERY industry in the country, outside of those engaged in producing defense goods, will be in direct competition for most materials, supplies, machinery, capital, and labor with those industries engaged in pure defense production. Rather than cause a decline in the purchasing power of peace time industries, the immediate outlook is one that will see increased demand for peace time goods. Certainly, we can expect to see industrial levels of activity higher than they have been for some time past.

"One thought which we must all



bear in mind is that, generally speaking, industry has not expanded its facilities for the past ten years. As a consequence, it is probably true that increased demands for goods which have already appeared and will continue to be present for some time to come, will require increased plant facilities in many of the peace time industries or consumer goods lines.

"When management outside of the defense program lines begins to buy materials and equipment to modernize production capacities, such a movement will, undoubtedly, add to the stimulus now being given by war and defense program requirements. It seems that in the interest of our own plants devoted to the production of consumer goods it would be wise to prepare for a reasonable increase in volume.

"We may find it increasingly difficult to acquire some of our plant requirements. (Several offset press manufacturers now have contracts to manufacture armament parts, and other plants indirectly affecting the lithographing field may have, too.) Many lithographing plants requiring better or new equipment should act as soon as possible, due to the improved earnings outlook for the near future and should do so in the interests of efficiency.

"In many cases increased requirements of materials and supplies have already been provided for through advance buying. As to straight inventory commitments, any point of view one may take is constantly subject to almost hourly revision. All purchasing agents are fully aware of the unpredictable course of world events and fully realize the repercussions that these events must have upon values.

"The problem of priorities is a difficult one and is likely to assume greater proportions as the pace of the defense program is accelerated. Purchasing agents recognize the problems and sense the bottlenecks clearly. As a consequence inventories are tending upward. Other industries, whose raw material requirements make them competitive with the defense group, are inclined to increase their commitments and the

basic element for a commodity inflationary movement pervades the market.

"It is a period in which caution may eventually be thrown to the winds and irreparable damage done to our social and economic order. In particular, with respect to this statement, I feel that the political action taken by our Federal Government will be of increasing importance to all business men. I doubt, sincerely, that our society as we know it, will survive unless both business men and Government reach some common ground, and concessions must be made on both sides.

"While the foregoing may appear extremely pessimistic, this is not the case. I feel strongly that with the exercise of care in meeting the problems we all must face, and with considerable thought given to the future by management, we all can look forward to greatly increased volume of business and to higher standards of living. It certainly will be essential that each of us must gear his plant or office to higher levels of efficiency combined with improved distribution facilities.

"The way is not clear, nor can we satisfactorily weigh the wisdom of those policies which have been or are to be adopted to further the ends of our nation. However, if management knows anything well, it knows its own field and within the sphere of each plant those responsible for the management of that plant must recognize some points where efficiency can be increased, waste eliminated, products improved or distribution facilities increased. At the moment, it appears that there is an adequate supply of raw materials, idle capital and labor (skilled to some extent) available for increased industrial production. The course our markets are to eventually pursue is, naturally, unpredictable. It is apparent that our immense defense program is providing, and will continue to provide, a great stimulus which will result in increased national income and stimulate business affected only indirectly by the defense program."

E. B. Davis, vice-president of Ideal Roller & Manufacturing Co., Chicago, points out that "two distinct problems deserve serious consideration by the lithographers of this country. The first is the effect that our national defense program will have on the availability of labor, machinery and supplies; and second the price effect that shortages of raw materials and supplies will have upon the market." He advised that if possible the lithographer should "be-

tween now and April 1st look over his physical plant equipment with an eye to bringing it up-to-date within conservative bounds.

"Whatever is needed in the way of precision equipment," he admonishes, "had better be contracted for before the placing of additional government contracts which may tie up the manufacturer's equipment in spite of his good resolutions to take care of the trade on which he depends in peace times."

The full text of the points covered by Mr. Davis follow:

**"DURING** the first three months of 1941, two distinct problems deserve serious consideration by the lithographers of this country. The first is the effect that our national defense program will have upon the availability of labor, machinery and supplies; the second is the price effect that shortages of raw materials and supplies will have upon the market.

"One of the most important factors in defense preparations is the machine tool industry. Machine tools, while more plentiful in the United States than in any other country in the world, are still insufficient to supply the heavy demand for precision built defense mechanisms.

"Among those industries which have machine tool equipment, the large press companies are perhaps better equipped as far as precision is concerned than many other manufacturers. It will therefore only be natural to expect them to devote almost their full capacity to manufacturing for the government. There are some press companies which, having learned a lesson from the last war, have begun their defense work with the reservation that a definite percentage of their output be reserved for taking care of their regular customers in the printing and lithographic trade.

"They have begun with this reservation, but whether or not they will be able to maintain this policy in the face of government pressure and public opinion is quite another matter. In spite of their wise and good intentions, it is quite likely that sooner or later they will be forced to dispense with any reservations. When and if this happens, the lithographer and printer will be without new equipment for the duration of the defense program. This will automatically prevent expansion on the part of the lithographer as far as pressroom equipment is concerned. It will also prevent the replacement of old equipment with new, up-to-

date high speed machines. To a lesser degree the same circumstances will affect the manufacture of composing machines, platemaking equipment, folders, etc.

"It would therefore seem that between now and April first, 1941, would be a good period during which lithographers should look over their physical plant equipment with an eye to bringing it up-to-date within conservative bounds. If, for the past year or so, the lithographer has been operating his plant under schedules which have been crowding his present equipment, he should consider the addition of the press or other equipment he has in mind. Whatever is needed in the way of precision equipment had better be contracted for before the placing of additional government contracts which may tie up the manufacturer's equipment in spite of his good resolutions to take care of the trade on which he depends in peace times. There will be a short period between the placing of the government contracts and final approval of designs when the manufacturers of lithographic equipment may be able to make their regular deliveries. It would, we believe, be wise to take advantage of that period.

"In the supply market, manufacturers in these lines are already being urged to make their commitments for the coming year on raw materials. Many of the raw materials, chemicals, etc., now used in the lithographic industry are also in demand by the government for defense work. Suppliers of the raw materials, in planning their production for 1941, have adopted a program of apportioning or rationing their output—so much for government work, so much for their regular customers who are suppliers to the lithographic industry. But in setting up those quotas, they have found it necessary to ask their regular customers to estimate their needs for the coming year, and while they have given assurance that these needs very likely can be met, they do not promise to deliver any overage. It is also understood that the quotas so apportioned are not cancellable.

"In many cases, raw materials

have already appreciably increased in price. These increases, for the most part, have not yet been passed on to the lithographer. There is, in all lines, a stubborn resistance to price increases. The manufacturer resists raw material increases as long as he can, without jeopardizing the quality of the materials he uses. He feels a reluctance to raise his prices to his customers, knowing that he will meet with resistance from them. Then, too, price increases involve a tremendous amount of detail work which the manufacturer tries to avoid as long as possible.

"Eventually, however, the composite increases reach the point where the additional costs must be passed on. The causes of such increased costs are of course, scarcity of materials and labor, both occasioned to a great extent by the additional burden on industry of any armament program, no matter how urgently necessary.

"This eventuality is described by some authorities as 'inflation' and by others as merely 'increased costs.' But whatever the name used to designate the condition, it appears at present that with the reserves of raw materials now in this country, with our advances in synthetic developments, and our new reciprocal trade treaties, we are not in immediate danger of serious shortages. Without such shortages, inflation—in its malignant sense—cannot take hold and grow.

"It is therefore important to keep an eye on the availability of supplies and labor. Since most supplies are sold under contracts no longer than ninety days in duration, it would appear that April first would be the time to check carefully for signs of inflation. The signs at present point to a lull during the first three months of 1941, but this aspect can be changed overnight by some unusual bit of news with reference to the European war, or the financing of that war."

A large manufacturer of equipment for the lithographic industry, who preferred that his name be withheld, declares that "there would appear to be every probability that inflation is on its way in the United States. The government," he says, "is making every effort to keep interest rates down to the minimum and to provide cheap credit in connection with defense program work which requires financing of buildings and equipment. Also, our banks have large reserves of funds available for loan purposes. We cannot estimate the extent to which industry would use low-priced





money for the creation of excess inventories, thus hoping to maintain their volume of sales of their commercial products after taking on defense work. If excess inventory is created, selling prices might be reduced rather than increased."

He continues:

"ON the other hand, we are already faced with Government priorities covering certain materials and products. Industry may find it impossible to secure necessary materials to maintain even its present rate of production. This condition would lead toward higher prices as inventories are decreased. It is probable that most manufacturers of lithographic presses, plate-making equipment and supplies have long since made provisions for the storing of materials so that normal manufacture can be continued.

"Our company believes the lithographic industry will be affected because of the Defense Program, at least in respect to paper, inks, some chemicals and other consumable supplies because of the necessity for using existing productive facilities on Defense Program work. It would seem that while such supplies are available the lithographer should carry larger than normal stock of such supplies. As to machinery, we question whether there would be any real shortage for many months to come, but there may be necessary price increases because of higher prices of materials and labor. Certainly it would be the part of wisdom for the lithographer who now knows he will require new equipment or the replacing of obsolete equipment during the next year to place orders in advance for such requirements, thus being protected against price increases and delayed deliveries.

"There are many indications that the demand for printed publicity will increase in proportion to the increased flow of money resulting from the tremendous Defense Program expenditures. If this is true, the lithographic industry should be in position to execute this increased volume of work."

Henry J. Hengsbach of C. P. Goerz American Optical Co., New York, comments as follows: "As far as the situation in the photo lens industry is concerned, there exists already a decided shortage in many sizes of lenses and while prices have not yet started to go up, it is most likely that they will as soon as labor and material costs begin to rise."



Herewith is his complete comment:

"I CERTAINLY do not consider myself competent to predict what will happen to the economic position of our country in this time of widespread struggle for economic advantages by this or that group of peoples, nor would I want to set myself up as an adviser to those engaged in the business of lithography as to how to prepare themselves for that much-talked-about inflation, which some recognized and other would-be economists predict is in the offing.

"As far as the situation in the photo-lens industry is concerned, there exists already a decided shortage in many sizes of lenses, and while prices have not yet started to go up, it is most likely that they will as soon as labor and material costs begin to rise.

"A general hoarding of materials and panicky increase of equipment in the varied fields of industry and merchandising would naturally hasten shortages all around and would thereby most likely intensify a tendency for higher prices.

"If a man thinks that his business is likely to benefit by the increased activities in other industries at this time and if he has ready money to purchase material and equipment outright, this may be as good a time as any later period, to do so. However, if he would have to borrow money to equip himself, I should say: Let well enough alone and see what will happen."

A large paper manufacturer, who asked that his name be withheld, agrees that "while it is true that there are certain elements in the present situation which are generally regarded as inflationary, on the other hand, there are offsetting checks and balances, the principal one being, in our opinion, the general recognition of the dangers of inflation. We would not presume to offer advice to other business institutions," he continues, "but can merely state that our own policy is to maintain normal inventories and do no specula-

tive buying of raw materials. We believe that this policy is quite general among industrial institutions and, if consistently followed, will be the best protection against serious inflationary trends."

Victor W. Hurst of the graphic arts department of Eastman Kodak Co. feels that the statement issued by his company at the beginning of the present war adequately covers any question of shortage of materials manufactured by his company. This statement, which is offered as an aid to the lithographer in the formulation of his purchasing policy, follows herewith:

WHEN war broke out in 1914, the company had to make frantic efforts to accumulate materials from abroad to sustain our manufacturing operations in Rochester. At that time, adequate supplies of the following important materials were available only by being imported from Europe:

"Paper to be sensitized: mostly from Germany;

Gelatin: mostly from Germany;

Sensitizing dyes for emulsions: from Germany;

Blanc fixe for surfacing paper: mostly from Germany;

Glass for plates: from Belgium and England;

Glass for lenses: mostly from Germany;

Certain developing agents: mostly from Germany;

Synthetic organic chemicals: from Germany.

"Persons working in departments where these materials are used will realize how serious any lack of them would be.

"But—the present war finds that situation completely changed: Kodak Park now makes all of its own paper for sensitizing . . . The gelatin we use in Rochester is now entirely supplied by Kodak Park and the Eastman Gelatin Corporation, Peabody, Mass. The Kodak Research Laboratories now make the sensitizing dyes we need. Blanc fixe is now made at Kodak Park entirely from American materials. Film has very largely superseded glass since 1914 for x-ray, portrait, and commercial photography; but all the glass needed can now be obtained domestically. Increasing amounts of glass for lenses are being made in the United States; and we have on hand a good stock of such foreign optical glass as we do require. Our requirements for photographic developing agents are now supplied entirely by Kodak Park and the

(Turn to page 55)

MODERN LITHOGRAPHY



**BUSY YEAR AHEAD FOR**

# **Trade Associations**

*By Ewing Galloway*

**I**F THE average lithographer faces a score of perplexing problems as 1941 begins to roll, the trade associations will be confronted with ten times that number. For members will bring their headaches straight to them.

As a matter of fact, members will expect their trade associations to keep them so advised and abreast of the times that they will never develop a headache at all.

Feeling, therefore, that if anyone knows what the industry should be thinking about in these times, it should be the lithographic trade association secretaries, we wrote to a representative few last month to sound them out. We put it this way:

"Suppose," we said, "that you were

***New problems loom in 1941  
for trade groups as Defense  
Program moves into high***

the Kenesaw Mountain Landis of lithography, and you were asked to draw up a code of rules—we believe in our letter we called them ten commandments—to guide the lithographer through 1941—what would you suggest?" As a starter we suggested a few:

(1) Don't sell below cost; (2) devote more time to advertising promotion during 1941; (3) follow your advertising

promotional program through with definitely scheduled sales meetings; (4) take advantage of all discounts; (5) select a proper trade association and cooperate with it; etc.

W. Floyd Maxwell, executive secretary of the Lithographers National Association, New York, replied saying that, "Certainly if we were to undertake such a task as suggested by you,



the stern admonitions of the old Mosaic law, 'Thou Shalt Not,' would be largely superseded by the positive command of action, because longer hours, harder work and intensified action are demanded of every American by the crisis we now face."

"**I**N ordinary times," he continued, "we might be tempted to pride ourselves on our past achievements and might face the future with a fair degree of complacency. But these aren't ordinary times and there is no room now for complacency. We might as well face facts realistically and realize that we won't be guided to the goal which has been set for us solely by considering the past any more than we might expect to thread the maze of automobile highway traffic by centering our gaze on the rear-vision mirror which may image perfectly the road we have already covered. This is not to say, however, that the rear-vision mirror should be discarded or that it does not serve a useful purpose for if danger is about to overtake us, to be forewarned is to be forearmed."

"What are some of the facts we must face realistically now? Foremost is the fact that the primary 'must' in America today is the speeding up of the 'All out for total Defense' program. Whether this vast program can be superimposed on an already active volume of peace-time production without serious disruption of the latter is highly questionable. This very question was raised by our President in his Sunday night fireside chat with the Nation. Man power, strategic materials, fuel, raw materials and their transport are all a part of this picture. The facts of progressively heavier tax burdens, advancing commodity prices, increased costs of production and narrower profit margins place a heavy premium on efficient, economical production and intelligent management."

"Acute shortage in certain classifications of skilled lithographic labor is perhaps one of the most important current facts that must be faced. New techniques and the disruption in many lithographic plants of apprentice training programs formerly carried on are factors in this shortage and lithographers *individually* must face their current responsibility in this regard. Likewise, this is no time for insistence on a hard and fast application of stringent apprentice ratios and it is our belief that labor will recognize this fact and will cooperate. Calls to the armed services and the lure of high wages and steady em-



ployment in plants engaged on war orders have already accelerated the normal loss of skilled men resulting from death and retirement. These increased losses can only be met if each individual lithographer recognizes now his personal obligation to train new apprentices. It is totally unfair to expect some other lithographer to carry the whole burden of training and in the long run the cost of apprentice training in the individual shop will be small compared with the cost to be paid if, with an acute shortage of skilled men, wage rates are to be set on a competitive basis between plants rather than on the basis of a fair remuneration for the skill and the productivity of the man himself."

"In our view, the lithographic industry can face the coming year with confidence. There will inevitably be tough problems to be solved, but as an industry working together for the common good and recognizing that the common good of the industry is the chief good of the individual plant, we can view the uncertainties of the future with confidence. Personal liberty is not license; disruptive, cut-throat competitive practices are out of step with the times. If lithographers—management and labor alike—will but work for industrial unity, our place in the sun will be assured."

Costs, according to Walter E. Soderstrom, executive secretary of the National Association of Photo-Lithographers, New York, is one of the most important single subjects calling for the lithographer's attention during 1941. Mr. Soderstrom pointed out that in view of the inflationary trend and the President's declaration of a "war-time emergency," measures may have to be taken by the government to control prices.

"**I**F this happens," he said, "it will be accompanied by a large amount of confusion because of the major adjustments required. For example, at what point will maximum prices be fixed? In England, which of course has been operating on a war economy since September 1939, prices were fixed at levels prevailing the month prior to her entry into the war. Since that time they have had to be adjusted a number of times. The level

at which prices would be fixed in this country, of course, would not be determined as hastily as in England. They would be the subject of considerable study. Appropriate adjustments would have to be made for prices which are subject to seasonal influences and many other factors which enter into the price structure. Undoubtedly the various trade associations would be called upon to furnish much of the information necessary in making the study. The trade associations, of course, would in turn call upon their members. It is imperative, therefore, that each lithographer at all times maintain an accurate, efficient and flexible cost system."

"Among other things which we think are important during the coming year are observance of the established trade practices by every lithographer, to the end that good relations may exist at all times between the lithographer and his customers; strict compliance with every provision of the Wages and Hours Law; a training program for apprentices in view of the increasing scarcity of skilled help; a training program for salesmen based on the best experience and advice available from a study of all businesses; a program to improve customer relations through institutional promotion and advertising; cooperation with other existing trade groups in the industry; and clinics on selling, production and management at regular intervals."

H. S. Lund, executive secretary of the Lithographers' Association of Southern California, Los Angeles, says that "along about the first of each year people are moved to analyze their condition and resolve to establish certain reforms. We think this analysis and resolution can apply to a lithographic firm as well as to a person. Therefore, we would like to suggest ten points which, in our opinion, are important starting points in that direction." Mr. Lund's ten points are:

- 1—Maintain an adequate cost system.
- 2—Have a good estimating department.
- 3—Recognize equipment limitations.
- 4—Develop a loyal, efficient sales organization.
- 5—Maintain a definite standard of workmanship.
- 6—Advertise your services.
- 7—Have a wise production manager.
- 8—Coordinate estimating, selling and production under intelligent general management.

## MODERN LITHOGRAPHY

9—Maintain an attitude of expectancy.

10—Join your trade association to avail yourself of the industry's help and experience.

"The fact that jobs must be sold before the presses roll, impresses me with the necessity of 'vision' in the Lithographic Industry. Foresight and imagination are important ingredients in any business and particularly in lithography where products are sold to the customer on the basis of a mental image backed up by samples of similar, previously manufactured articles; where estimates are made on hopes backed up by a cost system, maybe good, maybe bad; where production depends on the wisdom and forethought of a production manager; and last but not least the collection of the bill depends on the investigation and foresight of a credit manager.

"By no means do the above ten points cover the entire field, nor are the points listed with thought as to their relative importance. The points were chosen for the following reasons:

1—How often we hear as a panacea for all our lithographic ills, "Don't sell below cost." No one can continually sell below cost, but, what is cost? The necessity of an adequate cost system is clear and obvious. Different plants require different systems depending on size, equipment, products, etc. Management's job is to see that the cost system is adequate, no more and no less.

2—The estimator must be capable of mentally producing every job estimated. Complete understanding of every process through which the job passes will make it possible to visualize every economy possible in its production. Many jobs are lost to another firm whose estimator could see a better, more efficient way of producing them; and can't you just hear the squawks, "chiseler?"

3—Why waste time on jobs which you can't produce efficiently, and therefore competitively, because of inadequate equipment? Realize that there are specialties which you may not be able to handle, and perform a real service to your customer by directing him to someone who can do the job better. Sooner or later your customer will find out that he has been "robbed" and your reputation to serve will suffer. Here is also a chance to use foresight in abandoning obsolete equipment. When your competitor continues to take so much low priced business that he purchases more equipment, then is the time for a serious analysis of your own plant.

4—A loyal sales force is built around sound leadership. Help and encourage your salesmen to create ideas—to

anticipate customer's needs. Most salesmen are "visionary." Don't stifle their hopes and ambitions. If their ideas are impractical, take time to explain why and make suggestions that are possible. Your volume can be increased by creative selling.

5—Reputation for producing a definite quality of work will facilitate your sales job. Customers can depend on your salesman's word. Your salesman will have conviction when he tells a customer what you will produce. Many good selling jobs have been ruined and the customers lost because the quality was not as the samples shown and the promises made. A firm which attempts to produce two or more different qualities of workmanship is surely headed for trouble. Repeat business comes from satisfied customers.

6—There is an old saying which goes in this wise, "What you do shouts so loud in my ears that I can't hear what you say." Convince your customers of the value of lithography by using it yourself—generously. It will pay. Use as much time and care in preparing your own as you use in preparing your customers' advertising campaign. Don't let your advertising be just the result of trying to use up some non-productive time.

7—Foresight in purchasing materials, wise routing of work through the plant and attention to promises of delivery will result in better profits and satisfied customers. While it is difficult to evaluate the relative importance of various departments of a lithographic establishment, most certainly the production department would be near the top of the list.

8—If vision, foresight, imagination and wisdom are necessary in estimating, selling and production, then so are they necessary to an even greater extent in the person who must co-ordinate them.

9—With war facing us—at any rate "everything short of war"—one must certainly be on the alert for whatever might come. Are you giving due consideration to the possible increase in

costs of materials and equipment, shortage of skilled labor, lack of apprenticeship training and increase in taxes? Do you have a "savings" clause in your contracts? Are you watching the technical development of the industry? Expect that changes are bound to take place—prepare to meet them.

10—"I can't make money unless my competitor makes money," was truly stated by Max Schmidt, founder of the Schmidt Lithograph Co. If a person will look past the immediate job he will see the truth of the above statement and will conclude that the services of an association, establishment of fair trade customs, exchange of ideas of progressive lithographers and cooperation among the members of the industry is not only a privilege but a duty.

"Here are only a few thoughts—you can expand them indefinitely and the conclusion will undoubtedly be that constant VISION means progress and life."

Robert P. Inglis, executive secretary of the Eastern Lithographers Association, New York, has contributed a thirteen-point program to our symposium which he feels every lithographer should seriously consider in his planning program for 1941.

Mr. Inglis' thirteen points are:

1. PLAN to form a unity council, comprised of representation from every division of lithography, to establish trade standards and to exercise vigilant precaution to protect the industry as manufacturers.

2. Keep unemployment within the normal rate of 10% by adjustment of working hours to meet the conditions.

3. Spread the volume of business to avoid overproduction in a few shops.

4. Suggest that machinery dealers avoid the placing of machinery in the hands of irresponsible people who may set-up unfair and cut-rate competition.

5. Adopt sound business policies in the administration of affairs to give everyone a fair deal, customers, working staff and suppliers of materials, alike.

6. Adopt accurate and frequently revised cost methods based on professional accounting advice. Regular audits of your cost controls are vitally essential, especially today. This is so that you may properly price your effort on the basis of equitable values to your customers.

7. Support all educational, public relations, promotional and publicity programs to benefit your industry as

(Turn to page 53)



# LITHOGRAPHERS AND THE

**“W**HAT effect will the wage standards and working hours, set forth under the Wage and Hour Law, have on the cost of production or operation in our craft in 1941?”

This is the question that American lithographers, printers, and other branches of the processing and reproduction trades are asking today. They are asking it particularly in connection with the indicated demand for increased production under the program for National Defense. And they are not alone in their concern. Proprietors of plants in every phase of American industry today are also asking the same question.

In answer, Colonel Philip B. Fleming, Administrator, Wage and Hour Division, U. S. Department of Labor, recently declared:

“The Wage and Hour Law is here to stay. Its enforcement is as sure as the traditional death and taxes, and there will be no relaxation of either the minimum wage or the maximum hour provisions of the law. As a matter of fact, however, our experience has indicated that the total increase in payroll costs for the average concern generally amounts to so small a proportion of total production costs, that such increase is usually quite absorbed by economies in other directions. At the same time, the purpose of the law is met by spreading employment.

“Actually,” he continued, “industry is not so much interested in total payroll cost as it is in *what it gets* for that cost. If increased volume reduces the unit cost the firm is making a wider margin of profit. A point that is often overlooked in this connection is the fact that increased wage rates and shorter work hours do not necessarily mean increased costs. An increased volume of production may result in an actual decrease in unit costs.”

There is no doubt but that the

augmented production of machinery and equipment and other supplies needed for National Defense will cause an increase in the demand for printed products. Already many of the key industrial plants making airplanes, engines, tools, and the like, have increased the size of their own printing divisions. In Washington, additions are being made daily to most of the reproduction sections attached to governmental units.

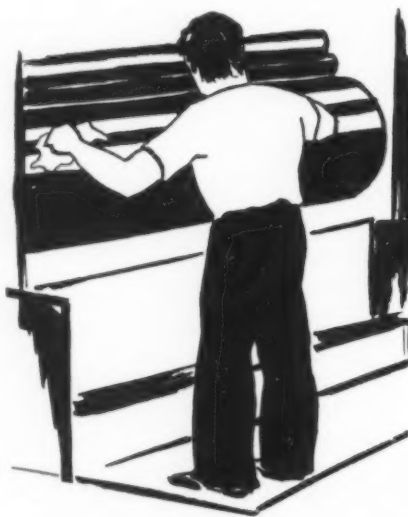
The former surplus of lithographic workers is being fairly well used up to the extent that today, according to an estimate made by the Amalgamated Lithographers of America, there are only about 500 unemployed member-lithographers left in the country. The Bureau of Employment Security supports this figure in its most recent tabulation (April 1940) which states that but 437 unemployed lithographers were registered at public employment offices, and only 9,706 press men and plant printers in all reproduction fields were seeking jobs. Divide these between the 552 lithographing establishments, or the total of 22,751 printing, publishing, and allied industries, reported in the Census of Manufactures for 1937, and it

will be seen that the usual answer of the Wage and Hour Division to “spread employment by putting more men to work” would really not go very far. It would work out actually to less than one man to every two plants. There were, however, in April, over 26,000 skilled, semi-skilled and unskilled workers registered for jobs in all branches of the printing trade, and it is reasonable to suppose that a percentage of these would be available for lithographic jobs.

In the lithographic field, production, as yet, has not been heavy enough to make the problem one of major importance insofar as *immediate* settlement is concerned. However, the fact that business is steadily increasing is enough of an indication that plans should be made now toward settlement when the problem does arise.

The Wage and Hour Law applies only to employees engaged in interstate commerce or producing goods for interstate commerce. But since the majority of lithographed material moves across state lines, it can reasonably be supposed that most lithographers are under this law and required to abide by its provisions.

A point of interest is that contrary to the opinions of many, the Wage and Hour Law places absolutely no limitation on the number of hours that any employee may work in any day, week, month, or other pay period. If he and his boss desire, and his constitution is willing, a worker could work 24 hours a day, seven days a week, and 52 weeks in a year. The Fair Labor Standards Act would have absolutely no objection to that, *provided* that for every hour over 40 in any single work-week he receives compensation of at least time and one-half his regular hourly rate. Since October 24, 1940, the slogan of the Wage and Hour Division has been “Overtime Begins at 40!”



MODERN LITHOGRAPHY



# WAGE-HOUR LAW IN '41

That, of course, is where the rub comes in. Where a man is working at a fairly good rate of pay, overtime at time and one-half such a rate would seem to hurt. But does it? For years now, under union agreements, lithographic journeymen have generally worked on a 40-hour week with time and one-half for time over that. In some sections, time and one-half is paid for the first three hours and double time for all work after that! As yet, even this does not seem to have hurt the industry greatly.

**A** GAIN it may be said that the payment of time and a half for overtime may not increase the unit cost of production. The reason is plants usually work overtime only to meet the demands of increased production—new orders from their normal market demand or perhaps because they are working on government contracts under the National Defense Act. This increased volume may result in a reduced unit cost, notwithstanding the payment of time and a half for overtime.

Incidentally, it should be pointed out that in most manufacturing plants the labor cost is the smallest part of the total cost. If total cost of manufacturing is divided into its three major parts: (1) materials; (2) overhead; (3) labor; we find that labor is the smallest of the three—as a rule not more than one-fourth or one-fifth or even less of the total. There are exceptions to this but they are rare. (Labor costs generally are a larger part of total costs in service industries. Frequently, the labor cost will amount to 50 per cent or more in service industries. The offsetting factor is, however, that as a rule their costs for material are much less.)

One more point of value is that as much as 12 hours in one day or 56 hours in any one week may be worked under certain specified conditions without pay-

*Will it affect your payroll and production costs? Will it, plus the Defense Program, create a greater scarcity of skilled labor in the industry? Have you made a thorough study of its provisions as they apply to your particular situation? In short, have you, in planning your program for 1941 given the Wages and Hours Law the important consideration it deserves? Be sure to read this article.*

ment of overtime. The provisions of the Act in this respect are designed to help employers meet emergencies without the extra cost of overtime rates and as an incentive to stabilize employment. The employees must be working under an agreement, made as a result of collective bargaining between the employer and representatives of his employees certified as bona fide by the National Labor Relations Board. The agreement must provide for an absolute maximum of 1,000 hours' work in 26 weeks, or 2,000 hours' work in 52 weeks. In the latter case, there must be a guarantee of a fixed annual wage or continuous employment for either 52 weeks or for 2,000 hours. In either case, work over 12 hours a day or 56 hours a week must be paid at the rate of time and a half. This should prove a valuable exemption and one which could be easily arranged.

An informal telephone survey of a few lithographic plants in Washington, D. C., discloses that insofar as increased payroll costs are concerned, the Wage and Hour Law may just as well not exist. These plants have been paying well above the minimum hourly rate. One plant that was not particularly desirous

of paying overtime had turned down jobs to keep employees' hours within the 40-hour limit, but this, it seems, was a pre-FLSA practice and not at all developed because of the Wage and Hour requirements. One other plant indicated that if it had followed its previous production routines, the Fair Labor Standards Act might have cost them overtime money. They avoided this, however, by looking critically into their production procedure and eliminating a number of false moves—which elimination increased production with no more effort on the part of the men.

Occasionally, of course, it happens that a plant is swamped with work. Several customers phone along the lines of "I am sending down an order for 25,000 four-color posters (or 100,000 labels, or 50,000 96-page instruction booklets with color charts) and we've got to have them," they insist, "within four days!" Or three days! Or tomorrow!

Often the only answer is multiple shifts—run the plant 16 hours instead of eight. But that costs overtime. However, that overtime outlay is only imposed when the same employees are



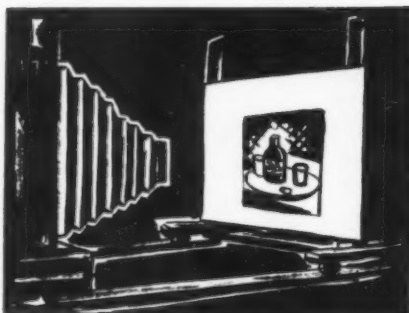
used through the two shifts. It can be avoided by giving new jobs if the help is available. Of course, the unit cost for increased volume should be kept in mind. In some of the smaller cities there has been some difficulty in securing good men because of the alleged unwillingness of journeymen to leave the shelter of the metropolitan areas. As one union representative said:

"These chaps, for some unknown reason, would rather walk the streets of New York or Chicago than draw \$100 a month running a press in Atlanta!" He continued: "We have had jobs open and waiting at good salaries right here in this city but we haven't been able to get them to come down from New York. This has happened not just once but countless times."

Of course a worker cannot be blamed for wanting to select his own location. Sometimes there are family ties, sometimes perhaps the chance of going back to work for a former employer. There seems, however, to be opportunity here for a definite job of education on the part of all employers and unions. It seems to be a matter of convincing a man that not only does the grass seem greener in the other fellow's yard, but frequently it is.

However, now is the ideal time to clean house with an outlook toward "the duration." Strange as it may seem, there have already been a number of court cases in which lithographers and printers have been brought up for violations of the Wage and Hour Law. Their offenses have included failure to pay the minimum wage—what that actually means is payment of less than 30 cents an hour; failure to pay the required overtime; failure to keep the simple records required under the Fair Labor Standards Act; shipment in interstate commerce of goods produced in non-compliant plants.

**I**NTERESTINGLY enough, the ramification of a Wage-Hour violation may be wide. In some of the cases where injunctions have been issued by the courts, not only the violator himself has been brought to task, but interstate shipment of products manufactured by other firms but bearing labels, or other printed material produced in non-compliant plants has been barred. In other words, violating the Wage and



Hour Law has been proven an excellent way to *lose* business!

No large producer of goods for national distribution wants to have his entire output held up while arrangements are being made to bring his printer into retroactive compliance. Throughout the country, for instance, a number of manufacturers have been restrained from interstate shipment of their finished products until the employees of supplying companies had received the minimum wage set by the law, and this wage, it will be realized, is not exorbitant. Thirty cents an hour for a 40-hour week is \$12.

It is impossible to prophesy when the weight of new orders will descend. The past few months have comprised mainly a period of slow determined preparation.

Real production in every phase of industry is yet ahead. While lithography has not been classed as a "National Defense Industry," it is so closely tied in with many of the vital activities that as their volume grows, so also will grow the demands on lithography.

What preparation is to be made to avoid heavy overtime outlays? There are two chief angles involved: (1) plant efficiency; (2) labor. While some few of the larger lithographic plants are geared to almost 100 per cent efficiency, a great majority of plants are almost pathetic in the amount of waste motion.

Depending upon the size of a shop, the efforts of anywhere from one boy to a dozen or more veteran journeymen may be entirely neutralized through this "Industrial Enemy Number One." How far is the paper stockroom? How many minutes does it take a boy to trundle a load of paper to the press? How many signatures does a boy have to get before he can inveigle a can of ink from the stockroom clerk? How much time does a high-paid man spend on jobs that can be done by helpers or apprentices? How much idle press time is there between jobs? Does a press man have to walk the whole floor to the

(Turn to page 53)

### LITHO-PRINTER GOES ON 80-HOUR WEEK

**O**NE answer to the Wage and Hour Law has been found by the Bradford-Robinson Printing Company, Denver, Colorado. Their answer is expressed by the slogan "Better Service to Customers on an Eighty-Hour Week Basis."

The company recently sent out to its mailing list a most attractive pamphlet calling attention to the 40-hour week requirement under the Wage and Hour Law, and that in accordance the plant would remain closed all day on Saturdays, but that due to increased volume of business and a desire not to impair service, a "well manned and well supervised night shift" allows work to be scheduled on a 16-hour day.

"For the first time in the printing industry in the West," says the announcement, "Bradford's 80-hour week makes it possible for you to obtain faster service on all printing and lithography. This feature will continue on a permanent basis. . . . The 80-hour week cuts in half the time normally required to produce a printed piece, makes possible 'next day delivery' on your emergency requirements, eliminates overtime on rush work. . . . The complete day and night shifts are both highly efficient and capable."

Earlier in the year, Wage-Hour inspectors had called at the plant to find that nearly \$700 in back pay was due about a dozen employees to bring their wages and overtime up to the figure required by the law. The company immediately paid up the amount in cash, assured the Wage and Hour Division that it would remain in full compliance from thence forth, and promptly set about making plans to give employment to more men. Many of Bradford-Robinson's customers have already expressed both appreciation and amazement at the speed with which they are now getting first-class work.

# CALCULATING THE EXPOSURE

*How the cameraman can coordinate the many factors involved in making line negatives, together with tables for ready reference.*

**BY LAWRENCE ROBERTS**

**T**HE correct exposure when making line negatives is dependent upon several factors:

- (a) the strength and color quality of the illuminant (arc lights, etc.)
- (b) the reflective power of the copy
- (c) the speed of the film or plate
- (d) the relation of the lens diaphragm to the bellows extension
- (e) the relation of exposure to the effective speed of the lens

Without undue fluctuation in the electric current, the strength of the lights will be uniform providing the distance between lamps and copy remains constant. The reflective power of the copy can be determined by the operator by experience or by the use of a reflection densitometer. Modern photo-

graphic materials can be depended upon to be reasonably uniform in speed. The above factors obviously can be considered as uniform or at least permit a uniform classification. As regards the remaining factors, it is a well-known fact that the lens opening must be coordinated to the bellows extension and that the total exposure is dependent upon the effective speed of the lens.

Photographic exposure may be expressed by the following equation: Exposure = time x intensity.

Intensity represents the total amount of light which reaches the sensitive surface of the film or plate and is only indirectly related to the quantity of the light at its source. Time refers to the duration for which the light is permitted

to act on the film or plate. As long as the net result is the same, time and intensity may be varied.

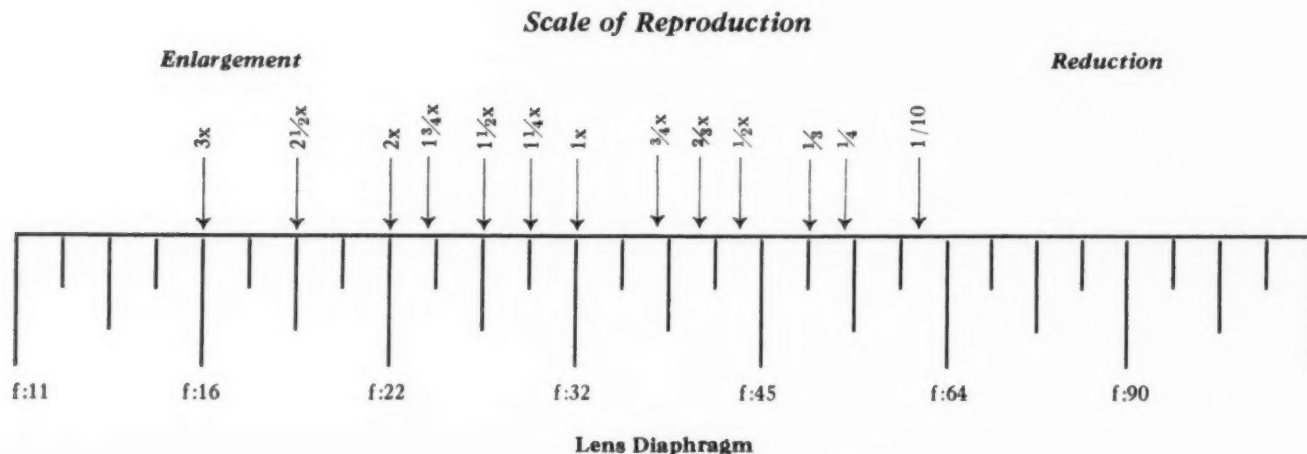
The intensity of the light striking the film or plate will be influenced by the distance between lens and film and the diameter of the lens opening.

Light weakens according to the distance it travels. The extent to which light weakens with travel is expressed in the inverse square law as follows: The amount of light received on a surface of given area from a given light source is inversely proportional to the square of the distance from the source to the surface.

A clear conception of this law assists in understanding the effect of bellows extension on the strength of the light

Fig. 1

## RELATIVE APERTURE CHART WHEN ENLARGING OR REDUCING WITH A FIXED EXPOSURE TIME



striking the film. In our calculations the lens itself will be considered the source since it is at this point that the light is converged and directed to the film. With an 18" lens, for example, at  $\frac{1}{2}$  reduction and 2x enlargement, the distance between lens and film would be 27" and 54" respectively. Offhand, it would appear that since the distance at 2x is only twice that of  $\frac{1}{2}$  reduction the exposure for the double enlargement would be twice that of the reduction. Actually though, on the basis of the inverse square law we find that the light is only one-fourth as strong at 2x enlargement as it is at  $\frac{1}{2}$  reduction. In order to produce identical negatives from the same copy at these two different degrees of reproduction we would need 4 times as much light with a given exposure time and lens opening for the enlargement or 4 times as much exposure.

The speed of a lens is determined by two factors—first the diameter of the effective aperture which, practically speaking, is the width or diameter of the lens opening; and second, by the distance the light has to travel after passing through the aperture until it reaches the film. This speed is the ratio existing between the diameter of the lens opening and the focal length and is expressed according to the *f* system. The familiar *f* numbers on the lens diaphragm ring indicate the speed of the lens at infinity focus, i. e., the inherent focal length of the lens. For copying, however, the lens is always extended further than the

infinity focal length so that the *f* numbers no longer are a true indication of the speed. An 18" lens with an effective aperture of 2" would have a speed of *f*9 at infinity focus. At same size, however, the *f*9 would be actually *f*18, i. e., the bellows extension divided by the diameter. All other things being equal, the amount of exposure required at different stops, or at the same stop with variations in the bellows extension, varies directly as the square of the true *f* value.

With a given bellows extension, the amount of light that reaches the film may be increased or decreased by opening or closing the lens diaphragm. Here, too, the strength of the light passing through lens openings of various diameters varies directly as the square of the diameter of the opening. As an example, a lens extended to 24" with an opening of  $\frac{1}{4}$ " would permit light of a certain value to strike the film. Now if the lens opening were increased to 1" we would have four times as much light reaching the film.

Accordingly we have more than one way in which to satisfy the "time x intensity" formula for correct exposure. When the distance between lens and film varies and therefore changes the strength of the light rays, compensation may be made by either changing the diameter of the lens and thus influencing the quantity of light entering the lens, or, varying the exposure time to suit the condition.

From the foregoing it is apparent

that the operator can quite easily coordinate the many factors by the use of either of the two following methods:

- (1) The lens diaphragm (stop or aperture) can be varied according to the distance between lens and film (bellows extension) and thereby maintain a constant exposure for all degrees of enlargement or reduction, all other conditions, of course, remaining constant.
- (2) A lens opening of a fixed diameter may be used and the exposure varied in accordance with the changes in the bellows extension.

Since both of these methods are based on the inverse square law, we have prepared charts to which the reader may refer and thereby eliminate the need for individual computation.

For the fixed exposure method, Fig. 1 illustrates the necessary changes in the lens opening for various degrees of magnification and reduction. Of the two methods outlined, this is undoubtedly the preferable system since it permits uniform exposures of minimum duration.

To use the chart, find the degree of reduction or enlargement in the upper horizontal line. The arrow directly below this number will point to the position to which the diaphragm of the lens must be set and refers to the *f* numbers engraved on the diaphragm ring. Regardless of the bellows extension all same and similar copy should receive identical exposure. Only in the case of colored copy and aged or discolored copy for which filters must be used will it be necessary to deviate from the standard exposure.

The exposure chart (Fig. 2) for the fixed stop method is used as follows:

In either of the first two columns find the scale of enlargement or reduction which corresponds to the job on hand. On the same line, in column three will be found a multiplying factor. The multiplying factor for same size is 1. If at same size the copy would require 30 seconds exposure, multiply that by the multiplying factor of the new scale of reproduction.

Example: Copy exposes correctly at same size in 30 seconds.

at 2x enlargement the multiplying factor is 2.25

(Turn to page 63)

Fig. 2  
RELATIVE EXPOSURE CHART WHEN ENLARGING OR  
REDUCING WITH A FIXED LENS OPENING

Scale of Reproduction	% of Original Size	Multiplying Factor
Enlargement {	3:1	300%
	2½:1	250
	2:1	200
	1¾:1	175
	1½:1	150
	1¼:1	125
1:1	100	1.0
Reduction {	¾:1	75
	⅔:1	66
	⅓:1	50
	⅔:1	33
	¼:1	25
	⅓:1	20
	½:1	10



# EVEN THE LITHOGRAPHIC INDUSTRY NEEDS A WOMAN'S TOUCH



**I**F YOU want to be known in this world, you can't hide your light under a bushel. Everyone knows that. But by the same token, you just can't take your light out from under a bushel and expect the world to be dazzled, either. In the first place, there are a lot of other lights, and in the second place, a good puff of wind might come along and—poof!—blow yours out. What you need is someone to tend your light and keep it brightly burning.

That is what the Educational Department of the Lithographer's National Association was organized to do. To keep the lithographic industry's light burning brightly. The lightkeeper is Dorothea Brennan, educational director. She keeps the wick trimmed and sees that there is plenty of oil. And that's where the woman's touch comes in.

The Educational Department of the Lithographer's National Association is five years old this month. For five years it has kept a light burning, a beacon would be better, to guide the hundreds in every sphere of business and industry seeking information about lithography and the lithographic process. You think that sounds like a fairly simple task? Well, let's have a look:

Did you know that there are some 41 advertising, technical and business trade papers who are hungry for information

*AND on that score it should be pretty well-equipped in the person of Dorothea Brennan, educational director of the Lithographers' National Association, New York. This month the Educational Department of the LNA marks its 5th year of activity. What kind of activity? Well, let's have a look behind the scenes and find out, and on the way size up its lady director.*

about the lithographic process, and want articles, merchandising stories, point-of-sale case histories and what-not about lithography by the score—which they need to dish up to their readers who are buyers of lithography?

Did you know that there are some 300 consumer publications covering approximately 17 different consumer groups, such as the beverage and liquor industry, the automotive industry, the tobacco industry, the cosmetic and toiletries industry, etc., who need to be supplied regularly with information about the lithographic industry and what it is doing so they can keep their readers informed?

Did you know that all of the advertising agencies are constantly in search of the latest information about lithog-

raphy in order to enable them to serve their clients as they should be served?

Did you know that there are hundreds of trade associations in this country, numbering among their members the largest users of lithography and printing in the country, who must be regularly reminded—and in a polite and interesting way, too—of the accomplishments of lithography?

Did you ever stop to think of the many hundreds of schools and universities, teachers, professors who teach vocational training, advertising technique, graphic arts, merchandising, etc., who are in need of up-to-the-minute information about lithography if they are to inform their charges efficiently and truthfully?

Did you ever stop to realize that one

of the reasons the lithographic supply houses in this industry are able to serve you so well is because they are kept informed of the latest trends and reactions in the merchandising and advertising worlds?

That's enough. Maybe you knew all of these things and maybe you didn't. But add them up. They certainly impressively demonstrate the need for educational information about the lithographic process and lithography. Well, the Educational Department of the LNA has kept every last one of the groups named above—and they are only a few—well supplied with the facts about lithography for the past five years. The light has been well-tended and obscure, indeed, are the corners that have not known its beams. That calls for a little hat-doffing, we think.

Officially, the Educational Department was organized to render the following services to and for member lithographers throughout the country:

1. To supply information on sales, advertising and merchandising practices in both lithographic and customer fields;
2. To distribute specimens of lithographed material to the trade, press, etc., at regular intervals;
3. To help provide the teachers of advertising and marketing in the leading schools and universities of the country with factual material which will enable them to do a better educational job insofar as the lithographic branch of the graphic arts field is concerned;
4. To be a clearing house for information concerning advertising campaigns in which lithography plays or can plan a part;
5. To dispense, in fact, any and all information, to and for the lithographer, that will aid him in the sales end of his business.

**H**ERE are a few of the actual activities covered, with figures for 11 months of 1939-40:

During the 11-months period, the Educational Department distributed, on request, 39,551 informational items regarding lithography and its products to customers or potential customers in 36 states. This distribution was

made possible through the cooperation of LNA members who made available without charge 87 different pieces suitable for distribution.

During the same period, the Association (through the Educational Department) cooperated with 40 different exhibits, competitions, etc., with a view of promoting a broader understanding and appreciation of lithography. By actual count, 18 of these exhibits alone drew attendance of 514,714 interested spectators. The most recent effort along these lines was the Living Lithography Exhibit in Philadelphia which attracted over 40,000 visitors.

For LNA members, the Educational Department recommended during this period through its Member Bulletin Service 168 items of interest, 95 of which were made available to members without charge through the Department. The Department received no less than 2,658 requests for these various items. Requests were received from 80% of the LNA members.

**I**N ITS publicity work, the Educational Department does not attempt to publicize the LNA itself, but rather the products of the lithographic process. Incidentally, because a large part of the material distributed is furnished by LNA members, they individually receive a good deal of valuable publicity. During the 11-months period of 1939-40 referred to above, the Department offered 386 items to the press and received 1,771 editorial requests for material. The total trade publication circulation reached through the activities of the Department represented (without duplication) 562,549 customers or potential customers for lithography.

Then, of course, there is the "Library" with its exhaustive reference files which is maintained by the Educational Department. Divided into two main sections, the files present on the one hand a vast amount of information on various industries and their advertising practices, and on the other a tremendous variety of specimen material in the lithographic field.

So much for the activities of the Department itself.

And now—for that woman's touch!

But first, a warning. Don't ever, as we did once, ask Dorothea Brennan to

tell you about the activities of the Educational Department and expect to get away under 5 to 6 hours. At least that! And don't expect to get away until she has finished either. We tried it. After about two hours we made some feeble excuse about an appointment. "You asked to hear about the Department's work, didn't you?" she wanted to know. We had to admit we had asked. Her logic was merciless. "Well, then, I'm not finished," she said. That's all there was to it. We stayed. However, if you really want to get the lowdown on what the Educational Department is doing, then, by all means, go see Dorothea Brennan, than which there is none quite so good at giving it to you.

You might gather from the above that Dorothea Brennan has enthusiasm. And you'd gather rightly. She's also a salesman, and a missionary. Even she, we think, would have to admit that the latter description covers her job pretty accurately. She is a missionary for a \$200,000 industry, the lithographic. Anyone less like the average male's idea of a female missionary than Dorothea Brennan, however, would be hard to find. She talks your language.

Miss Brennan came to her job with the Lithographers' National Association by no means unprepared. Brought up in Philadelphia, she naturally gravitated to the University of Pennsylvania where she first tried the regular academic course with an eye to teaching, only to switch to Business Administration. After college, she went to work in the Educational Department of Gimbel Brothers department store, training junior executives and sales people. A larger opportunity was offered in Syracuse, N. Y., where she became an assistant buyer for the E. W. Edwards Department Store. While there, she prepared a personnel training plan which was adopted by the store.

However, she found that New York held out a lure which she could not resist. A chance to do public relations work for the Leipzig Trade Fair, Inc., brought her to the city. Her next change, in 1935, was to the Lithographers' National Association.

In her spare time, such as she has had, Miss Brennan has taken courses at Columbia University in writing and

(Turn to page 63)

# Offset press operation

Another in the series on pressroom problems by Mr. Latham, well-known writer, lecturer, authority and trouble-shooter.

BY C. W. LATHAM

**I**NSTRUMENTS and testing apparatus, valuable to offset lithography in that they help to reduce or compensate for variables, are rapidly being adopted by this industry, but we need still more, and particularly in the pressroom. This article deals with a subject that has only recently begun to attract the attention that it should, and will probably soon be one of the important considerations, when starting an offset job.

To obtain brilliancy of color and proper drying and to eliminate chalkiness of the dried print, it is necessary to give consideration to that relationship which exists between the absorbency of the paper and the penetrating power of the vehicle.

In a general way, the offset lithographer has learned to soften his inks for very hard papers, and use stiffer inks for soft papers, but it is more or less guess work and there is a lot of room for improvement. The paper and ink companies are now studying many of the relationships between ink and paper.

When a special ink is made for a particular job, a sample of the paper is generally sent to the ink maker and the ink is compounded to suit the paper and other conditions specified, but the majority of inks are still for stock, to be carried on the shelves until a job comes along that requires that particular color. These inks are made in highly con-

centrated form, leaving it up to the pressman to prepare them for the type of paper to be used, and without proper testing instruments, this ink preparation is entirely a matter of guess work based upon past experiences of a parallel nature.

The only way the average pressroom foreman can even approach accuracy of ink preparation for a strange paper, is to press prove the job and keep an accurate record of the manipulating he did on the ink the job was proved with, and watch the result. This does not guarantee results, but gives him two guesses instead of one.

The time will probably come when one of the specifications for offset paper will be an absorbency number, or there will be a simple little kit developed, with which the lithographer can determine the absorbing rate of any paper, just as he can now test the pick quality with a set of waxes.

It will then only be necessary to devise a means of accurately adjusting the penetration power of his ink to conform to the paper, and guesswork has been reduced considerably.

A reducing agent is required that will not too greatly affect the tack and other printing qualities of the ink, but will definitely vary its penetrating qualities in relation to the proportion used.

The importance of ink penetration lies in the amount of vehicle that remains upon the surface of the paper

when the ink has set, and its proportion to the pigment.

With a highly absorbent paper and an ink of high penetrating characteristics, so much of the vehicle will go into the paper that the pigment will have nothing to bind it together and can be brushed off like chalk.

When the paper resists penetration and the ink lacks penetration power, there will be too much vehicle, in proportion to pigment, left on the paper surface. In some cases this condition is serious due to lack of bond between ink and paper. A thick film of vehicle covering the pigment has a tendency to reduce the brilliancy of the pigment. The greatest drawback to an excess of vehicle remaining on the surface is the difficulty in drying.

The amount of time required for complete oxidation of an ink film depends upon, among other things, the thickness of the vehicle film surrounding the pigment particles, and ideal drying conditions are more nearly approached when this film is at a minimum.

The effect that ink penetration has upon drying is evidenced clearly by the slow drying that accompanies high humidity conditions. When paper contains a high percentage of moisture, penetration is greatly reduced, and this, as much as the lowered drying action of the moist air is responsible for slow drying.

If a paper were designated as having a certain absorbency number, in order for this specification to be of value to the lithographer, he would have to know with what moisture content this number corresponded, and what adjustment to make for a given change in moisture content in case he wished to run this paper in a drier or wetter condition. For this reason it would appear to be a more simple procedure for the lithographer to make his own test of the paper's absorbency characteristics at the time of printing and after the paper was seasoned.

## Sorg Appoints H. E. Bois

The Sorg Paper Co., Middletown, Ohio, has just appointed H. E. Bois as its sales representative in St. Louis, Kansas City, Omaha and adjacent territory and also in the South and Southwest. Mr. Bois will make his headquarters in St. Louis.



# Offset platemaking

This is the first in a series on Platemaking by Mr. Nicholson, production manager of Ronalds Offset Lithographers, Ltd., Montreal, Canada, and author of the new book, "Photo-Offset Lithography." Mr. Nicholson will be glad to answer any questions you may have regarding Platemaking. Address your inquiries to MODERN LITHOGRAPHY.

BY DON NICHOLSON

**P**LATE making should not be hemmed around with a lot of hocus-pocus. It is a straightforward series of operations that are based on common sense and certain simple chemical and physical facts.

The graining of the plate to be used in photo-lithography is very important. Whether it be zinc or aluminum plates that are to be used, the grain serves two purposes: first, the grain allows the coating solution to spread evenly and then when the coating dries, the grain helps it to stay put; second, the grain helps to keep the dampening solution even on the plate. A plate on which the grain has worn away, due to too strong a fountain solution or to improper setting of the cylinders or over-packing, does not dampen evenly and the plate catches up in some places and carries too much water in others. Some day lithography will be printed without the water fountain, or with a preliminary dampening, and the present technique will be changed. The grain should be as fine as possible, especially when used for halftone plates. For the finer the grain the sharper will be the halftone dots.

When graining, the grain gets deeper until the points of the grain become so high and sharp that they break off, and you are back where you started. There

are various marbles used in graining, i. e.: Lignum vitae, glass, steel clay and steel. The wooden or lignum vitae balls take the longest, and the others are successively faster, with steel being the fastest.

Wooden balls give the best grain but are more expensive, as they take longer and wear out quickest. Glass balls break and the splinters score the plate. Steel balls are the fastest and last the longest, but either bits of steel get into the plate and cause trouble or, as the writer has also suspected, there may be some electrolytic action that affects the plate and gives trouble.

Steel clay balls seem to give the best grain and are economical enough. Pressmen prefer a coarse deep grain because it enables them to keep the plate dampened easily and prevents it from catching up, but this is not best for reproduction of fine work. Therefore 00 or 000 white Quartz Sand is the best abrasive.

The amount of water and quantities of abrasive used and the times of application make a great deal of difference in the sharpness and depth of the grain. When the plate is grained properly the surface will appear, under glass, to be covered with sharp pointed mountains all about the same height with the valleys the same depth and evenly

distributed. It will feel slightly rough to the fingertips, like very fine sand paper. It should not feel as though the peaks of the mountains were flattened. Plates used for hand work should have deeper grains than plates used for photo-lithography.

A formula which may be used for fine grained plates is as follows:

Quarts of 000 Sand	Gallons of Water	Graining Time
3	1	30 minutes
1	$\frac{1}{2}$	20 minutes
1	0	10 minutes

This is for steel clay marbles. The grainer speed is 120 R.P.M. This formula must be varied for speed of the graining machine and for the kind of grain that is required.

Plates should be washed thoroughly after graining with a hose to get all of the grains of sand off the plates. The plates should be then dried in an oven on a tilt rack so that they will dry quickly and not leave little drops of water to oxidize the metal. They should then be stored on tilt racks in a warm dry place where they will be covered until they are ready for the plate coating. Never place newspaper between the plates because the print will sometimes transfer and appear later on the plate. If paper is used it should be clean and well dried.

Aluminum plates, as they are successively grained, become thinner and the graining marbles do not circulate enough, so that dents appear in the finished plates. The bed of the graining machine should be perfectly smooth and flat, and the marbles must be kept moving.

Plates which have been used should have had the press ink washed out and been put under asphaltum. When the grainer receives them for graining, he should wash off the asphaltum with gasoline and after giving them a preliminary scrub with a stiff brush and water, they should be clamped to the bed of the graining machine and grained. Do not use caustic for removing coatings or it may get into the grain of the plate and cause blind spots to appear on the plate when it is on the press. It is better to grain a little longer to get rid of old work and avoid trouble.

The next article will discuss Albumen Coatings and their preparation.

MODERN LITHOGRAPHY

## ...RIGHT THE FIRST TIME

Improve the quality of your work and step up your production by using Kodalith Film, the film that's right the first time.



**T**HERE'S a special type best fitted for each kind of work. Once established, you can make your exposure and processing procedure a definite routine, relying on the uniformity of Kodalith Films.

**KODALITH BLUE SENSITIVE FILM**—for average black-and-white work.

**KODALITH ORTHOCHROMATIC FILM**—for fine line work, colored copy, and for making contact screen positives.

**KODALITH HALFTONE FILM**—for maximum halftone quality. Especially adapted to dot etching.

**KODALITH THIN BASE FILM**—for lateral reversal of the image by printing through the back.

**KODALITH STRIPPING FILM**—used regularly by many photolithographers in making complicated combinations.

All Kodalith Films are on "safety" type base, dry quickly, and hold size closely. All types are supplied in both sheets and rolls. Order from your Graphic Arts dealer.

**EASTMAN KODAK COMPANY**, *Graphic Arts Department, Rochester, N: Y.*

# KODALITH FILMS

## HALFTONE OFFSET

"I CAN'T GET IT OFF MY MIND!"



Of course he can't! And why should he?

Chillicothe's Halftone Offset is 100 per cent ready and will do the job "just like the doctor ordered."

No shrink, no strain or curl, no mottling.

Dull or gloss  
Write for samples

Never get Halftone  
Offset off your mind.



Save money by  
shipping 'via  
Miami Valley  
Shippers' Assn.

Makers of Quality Offset, Lithograph and Book Papers



Executive Offices and Mills:  
CHILICOTHE — OHIO

Pacific Coast Sales Office:  
1003 N. MAIN ST., LOS ANGELES, CALIF.

*Chillicothe*  
A BUY-WORD FOR HIGH-GRADE PAPERS

## RESOLVED:

for 1941—

to use more and more



No wiser resolution was ever made! For where quality and fidelity of reproduction in tone values—from vignettes to solid areas—are required, Eclipse Deep-Set Black will fill the bill and many times over. That's why more and more lithographers each year wisely resolve to use more and more Eclipse Deep-Set Black. Why don't you order some today and see for yourself?

● Eclipse Black is only one of the many unusual inks made by this company for the lithographer.

**Gaetjens, Berger & Wirth, Inc.**

35 York St., Gair Bldg., Brooklyn, N. Y.

538 South Clark St., Chicago, Ill



# Offset paper at work

Pinch-hitting for Mr. Wheelwright this month is Mr. Pattison, of the American Writing Paper Corp., Holyoke, Mass. Frequently called into the lithographic plant on trouble shooting errands, he discusses in this brief article some recent observations concerning humidity in the pressroom. Mr. Wheelwright will resume his series next month.

**BY ROBERT W. PATTISON**

PAPER, being hygroscopic, i. e., giving off or taking on moisture depending upon the condition of the air to which it is exposed, changes its dimensions by expansion and contraction. Paper will take on moisture much more rapidly than it will give it up; therefore we can appreciate that more trouble is experienced because of paper being too dry and absorbing moisture than when paper is too moist and loses some of its moisture. This latter condition, however, is difficult to correct. Because, while you will be able to run the job with excellent register due to the fact that the moisture you would lose by aeration in going through the press is replaced by the water on the blanket that contacts the paper, when the job is taken to the finishing room the edges of the pile lose moisture, contract and cause a "belly" in the center. This often causes a dish shape when the edges come up by drying out. This makes it difficult to split the job accurately.

In my opinion paper that is going to be printed by the offset process should have a minimum of 5% of moisture, regardless of whether or not the plant is conditioned. If the plant is conditioned to a definite relative humidity, then the necessary amount of moisture can be added to insure good register and press

operation. This amount should be about  $\frac{1}{2}\%$  more moisture than would be indicated by the relative humidity existing in the press room.

Hanging paper in the press room is better than no hanging at all when paper is not behaving properly, but it is naturally impossible to put into paper the extra moisture that of course does not exist. Unless it is hung for long periods of time it is difficult to bring the paper to a moisture content that will be comparable to the humidity of the press room. There are two factors that are necessary: namely, sufficient moisture in the air and adequate circulation of this air. The greater the volume of air that can be circulated and the higher the moisture content of the air, the less time, of course, is required for conditioning.

I would like to describe a recent experience I had at a lithographing plant. This lithographer conditions his plant by the fan type of ejection of moisture into the press room. He has a stationary wall hygrometer. He tries to maintain his press room at 50% relative humidity at 75° F.

He was having trouble and while the paper looked excellent on the skid, and testing it with a moisture sword indicated that the moisture content was ideal for his conditions, the behavior

of the paper definitely indicated that it was losing its moisture. The temperature readings from the wet and dry bulb of the wall hygrometer indicated that the press room was being maintained at 50% relative humidity. Needless to say, I was quite concerned because this information did not tie in with the behavior of the paper. While checking the hygrometer again it was observed that the water reservoir supplying the wick attached to the wet bulb had been pushed up and over the bulb so that there was no evaporation of water from the wick; therefore no wet bulb depression occurred. What it actually indicated was the temperature of the water in the reservoir and purely by coincidence this temperature gave a 50% relative humidity reading. This was quickly corrected and the relative humidity was found to be 27%. More moisture was added and the trouble disappeared.

This lithographer mentioned that there are a lot of plants that are not conditioned; therefore, why should he have trouble? I pointed out that as long as he was trying to maintain 50% relative and the paper manufacturer was aware of that fact, then he would supply paper that would have the correct amount of moisture, but if he did not intend to maintain this condition to let the paper manufacturer know and he would supply paper with the proper moisture content.

Another common practice is for a lithographer who appreciates the value of conditioned paper to hang everything that comes into his plant, regardless of the moisture content of the paper. He feels this procedure is good insurance, but he neglects one important fact. He assumes that all the paper leaving the conditioner is equalized in moisture content. Recently a lithographer who follows this practice experienced a variation in register. We were called in and we discovered that, in spite of the fact that this paper had been hung by the usual method, there was still a variation of moisture content. The dry paper was stretching. The reason for this was that the paper manufacturer shipped this paper to a converter coater, who in turn shipped it to a converter who embossed it, sometimes applying steam. No effort had been made during

(Turn to page 51)

# Technical news and Literature

This is a regular department conducted by Mr. Martin, of the Harold M. Pitman Company, in which technical books, articles, papers and similar literature of interest to the lithographic industry are reviewed and discussed. It is intended as a supplement to the Lithographic Abstracts prepared by the Research Department of the Lithographic Technical Foundation, Inc. The author will comment upon and elaborate further those Abstracts which, in his opinion, warrant it. This month he reviews the new Litho Manual.

BY KENNETH W. MARTIN

*Precision Copying Technique; P. M. Bruner, Photo-Technique, Vol. 2 No. 11, November 1940.*

IT IS probably too obvious to even mention that a good negative is the first prerequisite of a good offset job. Some like 'em high and some like 'em low, but regardless of personal preferences as to type of negative, the blacks must be black and the whites must be free from fog. Although Mr. Bruner is evidently not writing for reproduction processes, he makes some good points. The necessity for having the camera in proper alignment is stressed. If the position of the image on the ground glass changes as the lens or copyboard is moved in and out, it means that the camera is out of line. If the image moves to the left or right, then the copyboard is not at right angles to the bed of the camera; if the image shifts vertically, the copyboard is tilted.

The author insists that stray light should be entirely eliminated from the room in which the copyboard is placed. To accomplish this, the room should be entirely enclosed to avoid daylight, and the sides, ceiling, and floor should be painted a dull black. The use of a glass-covered copyboard should be avoided and "Stayflat" is recommended instead. This latter suggestion should not be

taken too literally. Some types of stayflats depend upon their water content for their tackiness and copy on paper will invariably curl away from these. Other varieties are so tacky that ordinary uncoated paper will stick too hard to be removed without ruining both the copy and the stayflat. The answer to this particular problem is not yet in sight, although vacuum copyboards are making some progress.

It is extremely important that large copy should be illuminated evenly. The lamps should be moved away from the board and the illumination should be checked by means of an exposure meter. The meter readings are taken by placing a piece of white paper in the center of the copy and taking a reading with a light meter presumably at a fixed distance from the copy. A similar reading using the white paper is taken at the four corners and all five readings should check closely.

*Copying Technique. Compiled by Frank R. Fraprie and Robert H. Marvis. Published by American Photographic Publishing Company, Boston, Mass. 128 pages. Price \$1.50.*

This book is intended for the reader who is interested in pure photographic copying. However, photo-offset tech-

nique is only a step away from pure photography. For example, the offset photographer is often asked to get a good reproduction of a poor piece of halftone copy. The authors suggest the use of a very fast emulsion on which a negative is made. The coarse grain of such emulsions will break up the screen to such an extent that a contact print can be made which will be practically continuous tone. Good suggestions are also made regarding the reproduction of pencil and crayon drawings and how to get detail from photographic copy made on matte paper.

There is a long chapter on copying colored originals and the suggestions made could be followed by the photolithographer merely by substituting a process panchromatic emulsion for the continuous tone emulsions recommended. It should be understood, however, that this has nothing to do with reproduction in color. The rendering of colored originals in black and white is an art in itself and the entire effect of color can be destroyed by the use of improper materials.

Other chapters describe the use of infra-red, ultra-violet, and X-Ray radiations in photography. The first two are used to a limited extent in reproduction work.

Although no specific mention is made of the photographic problems found in the graphic arts, this little book is useful for the light it throws on some of the less common copying jobs encountered in the day's work.

## Announces Spring Courses

The School of Design, Chicago, announces the opening of its Spring semester on February 3rd, for day and evening classes. Among the courses offered are product and display design, photography, graphic arts techniques and advertising arts. An illustrated catalog may be obtained on request from the school at 247-257 East Ontario Street, Chicago.

## Offset Disney Book

"Fantasia," by Walt Disney, an attractive booklet illustrated in four-colors and based on the motion picture of the same name, has been lithographed by Western Printing & Lithograph Co., Racine, Wis., for Simon & Schuster, New York publishers.

MODERN LITHOGRAPHY

## Litho Production Up 19.5 Per Cent, '39 vs. '37, Census Shows

**A** GAIN of almost 20 per cent in the value of work produced by the lithographic industry in 1939 as compared with 1937 is revealed in preliminary census returns released last month by the U. S. Bureau of the Census. The value of the output of the lithographic industry reached a total of \$154,394,787 in 1939 as compared with \$129,244,274 in 1937, a gain of 19.5 per cent.

Increases in employment, wages, number of establishments and materials purchased in 1939 were also registered. The entire printing and publishing field, by contrast, dropped slightly over 1 per cent in the value of products produced.

The industry, as constituted for census purposes, embraces establishments primarily engaged in the preparation of lithograph plates of stone or of metal, and printing from such plates. The 1939 Census of Manufacturers is the first census for which employees of lithographing and photo-lithographing plants who were primarily engaged in distribution, construction, etc., activities have been accounted for separately on the schedules. It is not known how

many of the wage earners reported for 1937 were employed in distribution and construction and how many were engaged in manufacturing. Employees of the plants reported as engaged in distribution and construction activities in 1939 are not included in this preliminary report but will be included in the final report.

The wage earners primarily engaged in manufacturing in this industry in 1939 numbered 26,000, an increase of 15.4 per cent compared with 22,533 reported for 1937, and their wages, \$37,929,201 exceeded the 1937 figure, \$33,951,799, by 11.7 per cent.

While the value of products of the industry increased 19.5 per cent in 1939 as compared to 1937, according to the preliminary census report, the accuracy of this figure seems open to question. There may have been a gain, and there is every indication that there was. At the same time, the exact figure is somewhat in doubt due to the incompleteness of both the 1937 and the 1939 surveys. Certainly the 1939 report is still far from a complete picture of the industry as the reports of only 749 companies are included. This does represent a gain

of 45 per cent from the 516 concerns reporting in 1937, but it is a well-known fact that the number of concerns reported for 1939 could be doubled and a picture of the extent of the industry would still be incomplete.

Summary statistics for the industry for 1939 and 1937 are given in the table at the bottom. All figures for 1939 are preliminary and subject to revision.

James Fitzgibbon, sales representative of E. G. Ryan & Co., Chicago agents for Webendorfer presses, will address the Hoosier State Press Association at Indianapolis, February 7. Mr. Fitzgibbon will discuss the development of offset newspapers and relate personal experiences in operating offset equipment in his own newspaper offices, at Monahans, Texas and later at Opelousas, La.

Snyder & Black, lithographers, New York, have just appointed Walter W. Richards as sales promotion manager. Mr. Richards was formerly assistant advertising manager of Pabst Brewing Co.

Employees of Peerless Litho Co., Chicago, received their annual Christmas bonus at a party held in the company's plant last month. This presentation has been a feature of the firm's Yuletide celebration for several years.

### SUMMARY FOR THE INDUSTRY: 1939 AND 1937

(Because they account for a negligible portion of the national output, plants with annual production valued at less than \$5,000 have been excluded since 1919)

	1939	1937	Percent of increase or decrease (—)
Number of establishments.....	749	516	45.2
Salaried personnel <sup>1</sup> .....	5,148	5,391	—4.5
Salaries <sup>1,2</sup> .....	\$15,328,775	\$15,065,161	1.7
Wage earners (average for the year) <sup>3</sup> .....	26,000	22,533	15.4
Wages <sup>2,3</sup> .....	\$37,929,201	\$33,951,799	11.7
Cost of materials, supplies, fuel, purchased electric energy, and contract work <sup>2</sup> .....	\$57,686,434	\$50,730,517	13.7
Value of products <sup>2</sup> .....	\$154,394,787	\$129,244,274	19.5
Value added by manufacture <sup>4</sup> .....	\$96,708,353	\$78,513,757	23.2

<sup>1</sup> No data for employees of central administrative offices are included.

<sup>2</sup> Profits or losses cannot be calculated from the census figures because no data are collected for certain expense items, such as interest, rent, depreciation, taxes, insurance, and advertising.

<sup>3</sup> The item for wage earners is an average of the numbers reported for the several months of the year and includes both full-time and part-time workers. The quotient obtained by dividing the amount of wages by the average number of wage earners should not, therefore, be accepted as representing the average wage received by full-time wage earners.

<sup>4</sup> Value of products less cost of materials, supplies, fuel, purchased electric energy, and contract work.



# • HUNT

## OFFERS A COMPLETE LINE OF CHEMICALS for the LITHOGRAPHER

Listed below are twelve of our most widely used chemicals for the Lithographic Industry. Like all Hunt products they are carefully pre-tested and of such uniform quality that they always give the same results. Complete catalogue and price list on request.

**Glycerine C.P.**

**Hydroquinone**

**Rubber Solution**

**Negative Collodion**

**Stripping Collodion**

**Gum Arabic Selected**

**Litho Developing Ink**

**Edible Hen Egg Albumen**

**Paraformaldehyde U. S. P.**

**Sodium Carbonate Photo Pure**

**National Photographic Carbons**

**Sodium Sulphite Anhydrous Photo**

**PHILIP A. HUNT COMPANY**

ESTABLISHED 1909

BROOKLYN, N. Y. CHICAGO, ILL.  
CAMBRIDGE, MASS. CLEVELAND, OHIO

# SIEBOLD

A Sign  
of High  
Quality

*Greetings  
for the  
New Year*

Another year has just ended and our Friendship and friendly business relations have grown to greater heights.

May we wish for you and yours a Happy New Year filled with good luck and cheer throughout the coming year.

"Over half  
a Century  
of Service"

Send for  
Price List  
and  
Sample Books



**J. H. & G. B. SIEBOLD, Inc.**

Printing **INKS** Lithographing  
and Lithographic Supplies

Office  
47 WATTS STREET  
NEW YORK  
Walker 5-5565-6-7-8

Factory  
99-105 SIXTH AVENUE  
NEW YORK  
Walker 5-5565-6-7-8

OFFSET BLACKS COLORS SAFETY INKS ROLLERS  
MOLLETON DAMPER COVERS RUBBER BLANKETS

MODERN LITHOGRAPHY

## IN AND ABOUT THE TRADE

### Organizes Employment Service

Chicago School of Printing and Lithography has recently organized an employment service, at the request of lithographers and printers sponsoring the school, to help alleviate a shortage of young men of 17 to 21 to fill minor positions in their plants. The situation is due to the high wages offered by Chicago metal industries engaged in national defense orders. Harold Sanger, director of the school, reports that their efforts to satisfy the demands of the printers and lithographers have thus far been unsuccessful.

### Unfilled Orders at R. Hoe

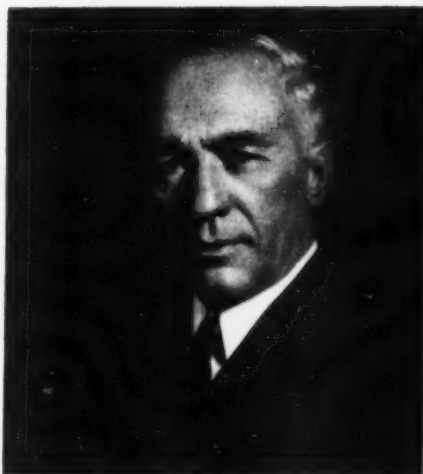
R. Hoe & Co., New York, manufacturers of printing and lithographing presses, announce that they now have on hand unfilled orders totaling \$5,300,000, or more than four times last year's total. The company expects to be operating at capacity during the remainder of this fiscal year and probably the next. They anticipate a net profit of about \$200,000.

### Bill Would Tax Advertising

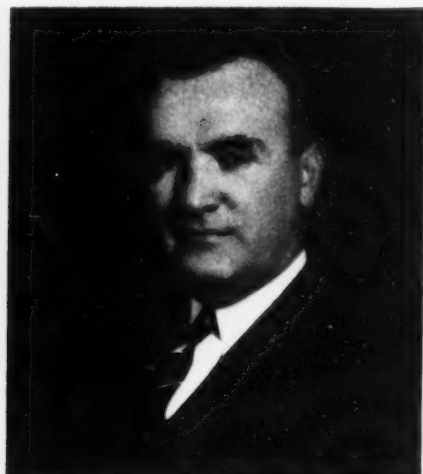
Horace J. Voorhis (Dem., Cal.), recently introduced in Congress a bill designed to provide funds for the national defense by prohibiting tax reductions for advertising expenditures. Defined as "the Advertising Tax Act," the bill has been deliberately framed to control advertising in the liquor, tobacco and luxury trades and to discourage outdoor advertising on public highways. It has been referred to the House Ways and Means Committee but no hearings are likely until next session, at which time, the bill will have to be reintroduced.

### New Litho Concern Formed

Columbia Lithographic Corp., a brand new firm, located at 225 Varick St., New York, began operating last month. One of the largest lithographic producing organizations to be formed in New York in many a day, the concern will special-



JOHN E. MARTOCCI



THOMAS A. MEEHAN



PHILIP ALBERTS



FRANK TOOKER

ize in color lithography, producing window and counter displays, posters, labels, can wraps, box wraps, folders, etc.

Its four principals are John Martocci, president; Thomas A. Meehan, vice-president; Philip Alberts, vice-president; and Frank Tooker, secretary and treasurer. J. W. Springer assists in production and office management under Mr. Martocci, with whom he has worked for the past several years. All were formerly connected with Industrial Lithographic Co.

The plant occupies 25,000 square feet of floor space and is laid out on a straight line production basis. Now in

operation are two 50 x 68½ two-color Harris offset presses, one 44 x 64 single color Harris offset press, bronzer, camera with 50 inch screen, photo-composing machine, die and straight cutters and other equipment.

Among the accounts which the new company now serves are: B. F. Trommer, Doughnut Corp. of America, Socony Paint Products, U. S. Rubber, R. L. Watkins, American Home Products, Irrestible Cosmetics, Julius Schmidt, Plat-num Cosmetics, the Lander Co., Wayne County Produce Co., Stroh-meyer & Arpe and others.

Renew your subscription to M. L.

---

---

# GOOD INKS AS YOU LIKE THEM

Color strength and brilliance plus uniformly good press working properties make Sinclair & Carroll inks the choice of leading lithographers throughout the country. In pressrooms, large and small, these inks are winning new friends and proving their all around dependability.

Sinclair & Carroll inks are carefully supervised in their manufacture by men whose lifetimes have been spent not only in supplying your standard ink requirements, but also in developing and improving your inks to their present high standard.

Try Sinclair & Carroll inks on your next job. You will like them for the work they do. We will welcome the opportunity to serve you.

## SINCLAIR & CARROLL CO., Inc.

LITHO                      INKS                      OFFSET

591 ELEVENTH AVENUE, Tel. BRyant 9-3566

NEW YORK CITY

CHICAGO  
440 W. Superior St.  
Tel. Sup. 3481

LOS ANGELES  
417 E. Pico St.  
Tel. Prospect 7296

SAN FRANCISCO  
345 Battery St.  
Tel. Garfield 5834

NEW ORLEANS  
518 Natchez St.  
Tel. Main 4421

---

---

## SERVICE PLUS QUALITY!

HAS MADE OUR PLANT THE WORLD'S LARGEST

WE SPECIALIZE IN  
SMALL PLATES

ALSO REGRAINING MULTILITH

ZINC and  
ALUMINUM PLATES  
UNGRAINED—GRAINED—REGRAINED

LITHOGRAPHIC PLATE GRAINING CO.  
OF AMERICA INC.



37-43 BOX STREET., BROOKLYN, N. Y.    EVERGREEN 9-4260, 4261





L. F. PORTER  
... head Northwest Paper Co.'s sales and manufacturing.



C. I. McNAIR, JR.

### New Distributor for Northwest

Northwest Paper Co., Cloquet, Minn., has just appointed the Chicago Paper Co., Chicago, as a distributor for its Timberland Book. Both Timberland English Finish and Timberland Egg-shell will be stocked. The company also announces the appointments of L. F. Porter to the office of vice-president in charge of sales, and C. I. McNair, Jr., to vice-president in charge of manufacturing.

### Announce Lithography Shows

Following the success of the "Living Lithography" exhibition presented in Philadelphia in October by the Philadelphia Art Alliance and the Lithographers National Association, New York, two new exhibitions have been announced. The first is to be a permanent Living Lithography exhibition which will be opened in New York on February 1 at the New York Trade School in cooperation with the Lithographic Technical Foundation. The second is to be a traveling exhibition, sponsored by the American Institute of Graphic Arts, which will open in New York in Ben Franklin Hall at the New York Advertising Club on February 24 where it will be on view through March 1, 1941. Both shows will be non-technical in nature, emphasizing the versatility and artistry of modern lithographic production as demonstrated by a collection of hundreds of examples of lithographed products. Many of the items in each show were selected from the Philadelphia exhibition. It is

planned to keep the permanent exhibit progressively up to date by changing the material from time to time. The copyrighted name, "Living Lithography," is being used in both cases by permission of the Lithographers National Association.

### Printing Sales Up

Printing sales in November in New York City were the highest for the month since 1935, according to a statement issued by George A. Sloan, Commissioner of Commerce and chairman of the Mayor's Business Advisory Committee, and were 21.6% higher than during November last year. For the first eleven months, according to the report, printing sales in the city were 9.6% above the same period last year and the highest since 1937. Preliminary figures indicate that December sales showed a gain at least equal to the eleven-month average.

### To Hold Mid-West Conference

The National Association of Photo-Lithographers announces a Midwestern Round Table Discussion to be held at Wichita, Kansas, January 24th and 25th. The meeting is being sponsored by A. G. McCormick, Jr., McCormick-Armstrong Co., and vice-president of the N. A. P. L. Lithographers from five adjacent states have been invited to attend. The conference will be officially opened with a dinner on Friday evening, January 24th, and a round table discussion, at which questions on sales, production and management will be

answered by a board of experts, will take place on Saturday. Merle S. Schaff, president, and Walter E. Soderstrom, executive secretary, of the N. A. P. L., are expected to attend.

### Plan PAC Program

The Advisory Board of the Printing and Advertising Clinics, sponsored by General Printing Ink Corp., New York, met at a luncheon last month to review the first year of PAC activities and to discuss the program for 1941. Among the topics approved for the forthcoming year are research, production, packaging, design, art, coordination and defense. Announcements will be sent out giving all details of the next meeting.

### "Print It In N. Y." Drive

The New York Employing Printers Association, with the cooperation of the New York City Department of Commerce and the Mayor's Business Advisory Committee, launched an industry-wide campaign last month to bring back to New York City a part of the printing business lost during the depression years. The drive was formally opened with the issuance of a brochure entitled "Print It In New York," which will be distributed to executives and purchasing agents of important New York business concerns. The brochure is handsomely illustrated and contains facts and figures concerning New York's printing facilities and the importance to the city of the graphic arts industries. Each brochure is accompanied by a letter from Commissioner George A. Sloan of the Department of Commerce urging corporation heads and heads of non-commercial institutions to help increase the value of the city's printing industry. The printing trades unions' officials are cooperating in the campaign.

### Present Scroll to Young

E. Bennett Young, Jr., Young & Selden, Inc., Baltimore, former president of the Institute of Bank Stationers, New York, was recently presented with an illuminated parchment scroll, signed by Institute members, in token of their appreciation of his services as president last year. The presentation was made by Van Brunt Seaman, J. C. Hall Co., Providence, R. I., the new president of the Institute elected last September at the convention in Atlantic City.

### Opposes State Printing Plant

Frederick E. Crane, former Chief Judge of the Court of Appeals, stated his opposition to the establishment of a state printing plant in New York, in a report submitted recently to Governor Herbert H. Lehman. Mr. Crane, who has been investigating alleged irregularities in the existing system as Moreland Act commissioner since last February, recommended that the state should not establish its own printing plant until it had thoroughly explored and tested the ability of the Printing Bureau to secure reasonable prices and adequate services from the printing industry. "If the Printing Bureau functions efficiently and honestly," said Mr. Crane, "I find that there is no need for a state-owned plant." Although evidence at public and private hearings showed collusive deals between officers and representatives of J. B. Lyon Co., Albany, and Burland Printing Co., New York, which had given them a monopoly of the state's contracts since 1931, there was no evidence of corruption in the State Printing Bureau, according to Mr. Crane, which is in the Division of Standards and Purchase of the State Executive Department.

### ATF War Orders Increase

American Type Founders, Inc., Elizabeth, N. J., announces that it has on hand between \$10,000,000 and \$12,000,000 of government orders in addition to its regular business. The company is building a new plant at Elizabeth to handle its war business.

### Issues Fifth PAC Report

General Printing Ink Corp., New York, has just issued a complete report of the fifth Printing and Advertising Clinic held last October in Philadelphia in connection with the "Living Lithography" exhibition. Copies available on request.

### Discuss Litho Markets

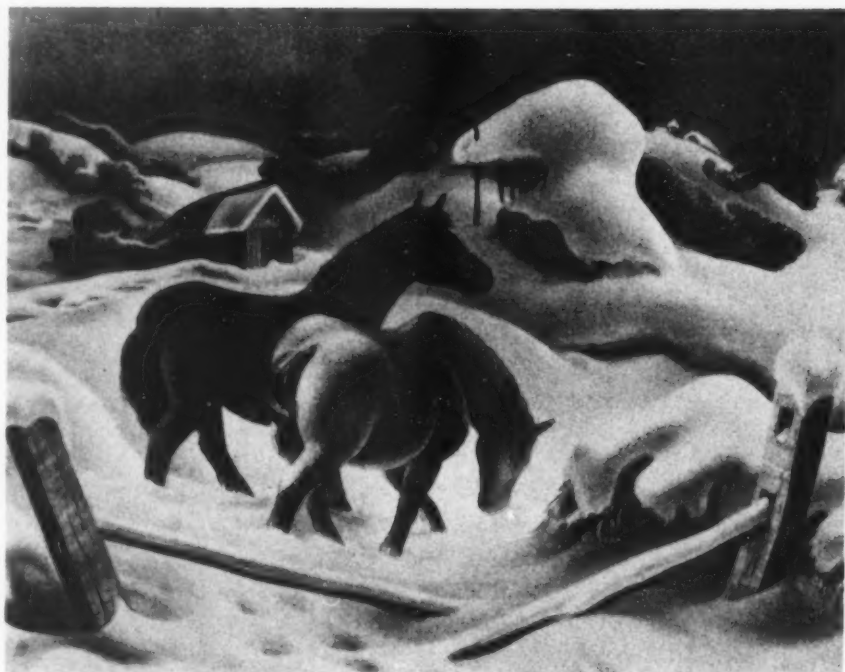
"Future Lithographic Markets" was the topic discussed at the meeting of the Young Lithographers Association, New York, on January 8th at the Advertising Club. H. W. Blomquist, Harris-Seybold-Potter Co., spoke on developments in the sheet-fed offset press field and what they mean in the way of new

markets. W. B. Marsh, American Type Founders Sales Corp., was heard in an address on the developments in the web-fed offset press and their relationship to future lithographic markets. The third speaker, George N. Auerbacher, Champlain Corp., discussed new horizons in the rotogravure field.

### Distributes Christmas Bonus

Ever Ready Label Corp., New York, distributed a Christmas bonus of half a month's salary to every employee at the company's annual Christmas party last month. Sidney Hollaender, president of Ever Ready, made the presentations.

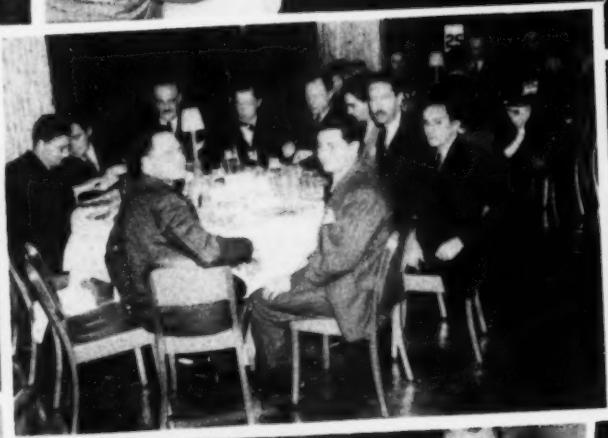
Prize-winning lithographs chosen from the Second Annual Exhibition of Lithography, held at the Oklahoma WPA Art Center, Oklahoma City, last month. The lithograph at the top, by Doris Kunzle, of Philadelphia, won first prize. The one underneath, by John De Martelly, of St. Louis, was given second award. Lithographic artists from all sections of the United States were entered in the exhibition.



MODERN LITHOGRAPHY



*New York Photo-Lithographers' Christmas Party*





**B. P. B.**

Ready-to-Use  
Plate Sensitizer  
Bears a Red Seal



## FIRST AGAIN . . .

Having developed an acid and alkali  
Proof Can . . . We can now offer

### Ready-to-Use

**PHOTO-OFFSET PLATE-COATING SOLUTION—**  
Ready Bichromated . . . Sealed at the  
Laboratory against Light, Air and Age.

**B. P. B.** (Bora-Phenol-Bumen)

is packed in 12 ounce cans—  
(pour from the can onto the plate)

**No better Albumin Coating  
is Conceivable!**

*The Cost is so Low you can't afford to  
mix your own solution.*

**24—12 oz. cans to a carton . . . \$4.75**

F. O. B. New York  
or Dealers

**LITHO CHEMICAL & SUPPLY CO.**

63 Park Row

New York, N. Y.

## Just Published!

### PHOTO OFFSET LITHOGRAPHY

by Donald Nicholson

Production Manager of Ronalds Offset  
Lithographers, Ltd., Montreal, Canada,  
and contributor to Modern Lithography.

A simply written book covering all the  
essentials of Photo Lithography, as well  
as the necessary technical information.  
It fills a long felt need and should be of  
great value to craftsmen, production  
managers, sales executives, and plant  
owners as well as teachers and students in  
the field of lithography.

#### Partial List of Contents

PREPARATION OF COPY—Paste-Up; Color  
Break; Photo-Composing; New Method of Type  
Preparation; Color Drawings, Kodachrome, etc.

CAMERA WORK—Camera Construction; Fil-  
ters; Developing; Re-Screening Halftones; Color  
Separation; Duotone; Natural Color Film, etc.

LAYOUT—Ganged Jobs; Color Separation;  
Mechanical Tints; Color Process.

PLATE MAKING—Ganged Exposures and  
Double Exposures; Plate Etches, Gum Arabic,  
Albumen and Preservatives; Photo-Composing;  
Paper Prints, Vandyke, etc.; Transparentizers;  
Glass Keys; Deep-Etched Plates; Imprints.

PRESS WORK—Feeding Different Stocks; Pile  
Regulator; Impression Bars and Push Rules;  
Harris Feeders; Cut-Out; Timing; Dexter  
Feeder; Suction and Air; Feeder Trouble  
Helps; Blanket Wash; Fountain Solutions; At-  
taching Plate; Lithographic Inks; Reducers;  
Driers; Binders; Make Ready; Press Troubles;  
Scumming; Streaks; Paper.

Price \$3.50

Send for your copy!

*Owing to the large number of books supplied it is  
impossible to open accounts on individual book  
orders or to supply books on approval. Please send  
check with order.*

**MODERN LITHOGRAPHY**

254 West 31st Street

New York City

## NEW EQUIPMENT AND BULLETINS

### Carrier Issues Report

Carrier Corp., Syracuse, N. Y., has just issued the "Annual Review of Air Conditioning," a report on air-conditioning activities during 1941. The review stresses the progress made in improved equipment, widespread education and increased number of users of air-conditioning during 1940. There is an increased tendency, according to the Carrier report, for customers to expand existing systems and a number of cases are cited to illustrate this. Also mentioned are several new industries which have just adopted air conditioning. Copies are available.

### ATF Rotary Offset Press

American Type Founders, Inc., Elizabeth, N. J., has just announced the new ATF-Webendorfer rotary offset press constructed primarily for salesbook and ruled form work. A feature of the new press is a double web which permits the simultaneous printing, cutting and collating of original and duplicate sheets on different colored stock if desired. The press consists of two offset units, each of which will carry a web up to 24 inches in width. After the paper has been lithographed, both webs are fed together into the delivery, the original copy on top and the duplicate under-

neath. The delivery cuts off both webs in one operation to a length of 17 inches and delivers the cut sheets in correct sequence ready for binding. Press capacity is 12,000 original and duplicate sheets, or 24,000 individual sheets per hour. It is said that the machine is particularly adapted to ruled form work where interleaved original and duplicate forms are required. The press can be built in various sizes to fit individual customer needs and can be equipped with numbering, perforating and other similar attachments.

### New Watervliet Sample

Watervliet Paper Co., Watervliet, Mich., has just issued a portfolio containing a copy of *The Stylist*, a home-making magazine published by the Grand Rapids Furniture Makers Guild. The booklet is lithographed in black and white and full color on Watervliet's Spiral Laid Offset by Michigan Lithographing Co., Grand Rapids, Mich. Copies available.

### Nelson Promotion Piece

Nelson Associates, Detroit, have just issued an impressive direct-mail piece in the form of a plastic-bound book, 13" x 20", describing their services in the preparation of copy for lithographic

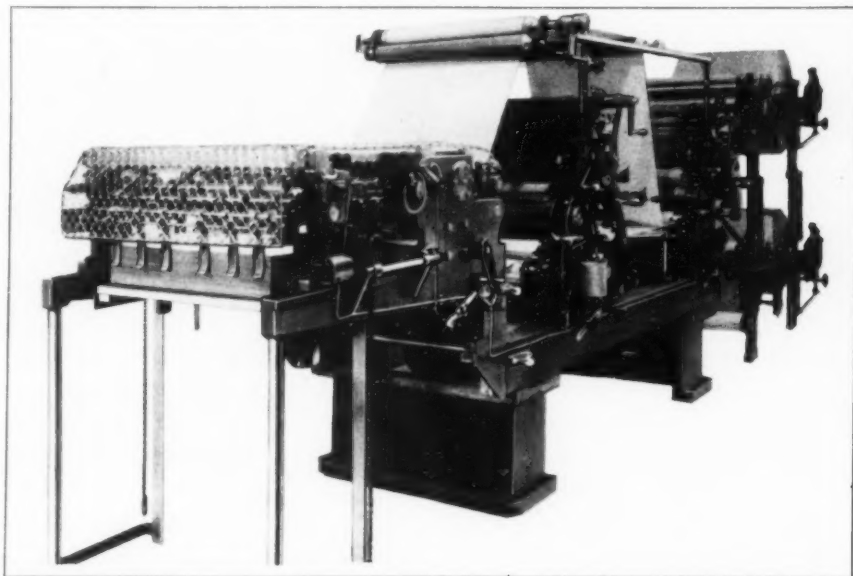
reproduction. Through a word and picture conversation between the president and advertising manager of a concern regarding the production of their catalog, each step in the preparation of the copy is described and illustrated as the job goes through the Nelson plant. Some of the services described are designing and planning the job, preparing art work and photographic illustrations, typography, and placing of art work, type and photographs in position for the camera. Several pages are also devoted to typewritten composition and an explanation of its uses and advantages for certain types of work. The book also describes the services offered by Nelson Associates in making offset negatives and plates, and includes a list of the present users of their services.

### On Applying Dampening Cover

Carl G. Johnson Co., photographer and engraver, Eau Clair, Wis., has sent along this hint regarding a simple method of applying a seamless cover to the dampening roller. It is done, he says, by taking a discarded metal sheet and forming it around a somewhat smaller roll to allow for spring. This should be placed on the roll to be covered. Slit one end, bending points to form a cone shape and pull cover over, holding end of cover while removing tube. The cover should then be smooth and even. The metal tube may be soldered at a few points, especially for larger rolls.

### Modernizes Lighting

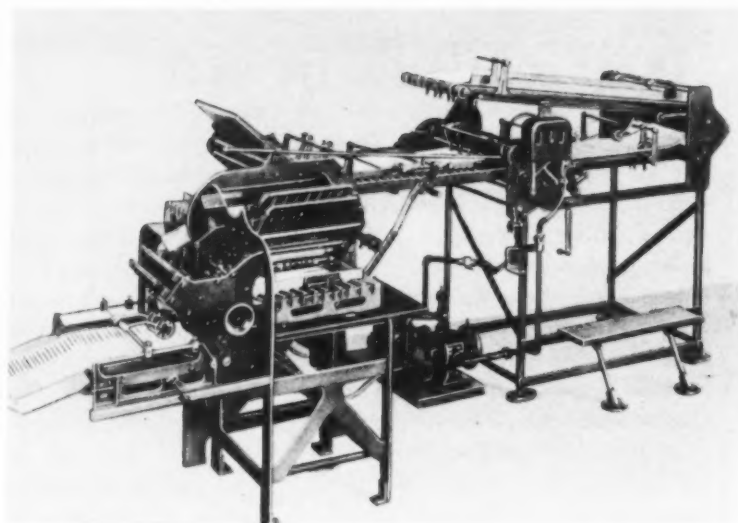
Millar Publishing Co., lithographers, Chicago, has installed a modern indirect lighting system which provides the pressroom with an average light intensity of eighteen footcandles, and the office with eight to thirty-five footcandles. Light on presses was formerly supplied from small, cone-shaped reflectors while general lighting came from shallow-bowl fixtures. These outmoded types of lamps were replaced by modern 200-watt Glassteel diffusers with bulbs enclosed in translucent globes. Existing



# ONE "DOUBLE O" CLEVELAND

will make practically every type of fold you will ever need in sheet sizes up to 22 x 28".

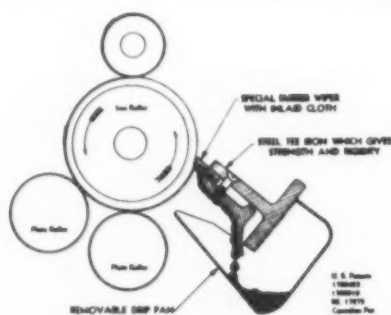
As approximately 90% of all Direct Mail Literature comes within the maximum sheet size and Folding Range of the "DOUBLE O," this one Folder in your plant will give you top service and extra profits on this desirable class of printing. Ask for "In Step with the Times," and become acquainted with this practical Folder.



**DEXTER FOLDER COMPANY • Pearl River, New York**

## INTERNATIONAL PRESS CLEANERS

are daily demonstrating their efficiency in increasing Output and Lowering Production Costs



### THIS IS OUR METHOD OF REMOVING INK FROM PRESS

We invite you to take advantage of our thirty day trial offer. If interested write and let us know the size and make of your press.

**INTERNATIONAL PRESS CLEANER & MFG. CO.**

112 Hamilton Ave.  
Cleveland, O.

*When Quality Counts Most—Use*

## ILFORD PANCHROMATIC DRY PLATES

(NON-HALATION)

Here is a summary of useful information that will help you choose the right panchromatic plate for any job.

(Order Code) NAME	Characteristics	Uses
<b>PP-50</b> Halftone Pan.	Highest contrast; thin film emulsion. (H.D. 75)	"Direct" process halftone negatives when sharp solid dots are required.
<b>PP-40</b> Rapid Process Pan.	Slightly lower in contrast than above but increased speed. (H.D. 135)	"Direct" process halftone negatives and a universal standard in use for years.
<b>PP-20</b> Special Rapid Pan.	Medium speed and contrast. (H.D. 100)	"Indirect" continuous tone negatives and positives in lithography and photogravure.
<b>PP-10</b> Soft Gradation Pan.	Fast; soft-working long delicate gradation scale. (H.D. 1200)	"Indirect" continuous tone negatives and positives and all color separation work.

\*Also furnished in "Matte" surface. In ordering "Matte" add "M" to code.

SOLE U. S. DISTRIBUTORS

Complete Stocks

Prompt Service

**Photo**  
**NORMAN WILLETS CO.**  
**Supplies**

Mid-West Depot  
316 W. Washington St.  
CHICAGO, ILLINOIS

Eastern Depot  
10 West 33d Street  
NEW YORK, N. Y.



outlets were used wherever possible to reduce installation cost of new wiring and reflectors are located so that a somewhat higher level of shadowless, glare-free light is shed on all work areas.

A. L. Kuehl, plant superintendent, says that the decrease in employee physical fatigue has been striking under the new lights. Eye strain has been entirely eliminated, and better work is produced, he said.

#### • "Salesmen Built America"

Dartnell Corp., Chicago, has just published "Salesmen Built America," by George Hughes, chairman of the board, Edison General Electric Appliance Co. Written by a salesman for salesmen, this 96-page volume presents a successful sales philosophy based on the thirty years' experience by an outstanding leader of the electric appliance industry. "Salesmen Built America" is full of personal experiences and stories bringing out the importance of salesmen in the history of America, both past and future. Salesmen of lithography should be able to find here many pointers on selling in general, and get a new slant on problems which come up every day in the salesman's year. Price \$1.50.

#### • New Book on Color Printing

Thomas S. Curtis, Huntington Laboratories, Huntington Pk., Calif., has just published "Color Printing Simplified," the purpose of which is to reduce to the simplest common denominator the basic factors which

govern the making of a color print. Within its pages are discussed the making of color separation negatives by various methods and print making by the Orthotone process (a Dr. Curtis development). The basic considerations for both the amateur who desires nothing more than a pleasing color print for personal use, and the lithographer who wishes to reproduce nature's colors on the printed page are alike up to a certain point, according to Dr. Curtis. In the graphic arts, however, literature on the subject is often too technical, or more often, overlooks some of the minor points which are troublemakers. In this booklet, Dr. Curtis makes a thorough analysis of the salient features of color reproduction. To those who desire a simple explanation of the art, this book is recommended. It is priced at 50 cents.

#### • Stet

That new house magazine for house magazine editors, *Stet*, published monthly by the Champion Paper & Fibre Co., Hamilton, Ohio, certainly fills a definite need among house magazine editors. It offers practical suggestions, describes outstanding features, and provides a clearing house of interesting and helpful information for the house magazine editor. Much of the material is written by editors themselves and others connected with the production of house magazines. With items ranging from a series of articles on the preparation of employee reports to thumb-nail sketches of particularly note-

worthy magazines, *Stet* gives promise of being a first-rate aid to any house magazine editor.

#### • Hold First Ladies Night

The Litho Club of Baltimore held its first annual Ladies Night last month at the Hotel Emerson. Following dinner an address was heard by the Reverend Francis F. Lynch on "The Real Spirit of Christmas." H. T. Eggers, one of the members, acted as master of ceremonies.

#### • Offset Paper at Work

(from page 39)

the two subsequent operations, after the paper was made, to control moisture. It is reasonable to assume that the paper, before being hung by this lithographer, had quite a variation in moisture content, so that his normal conditioning time was insufficient to overcome it. Needless to say, this type of paper is now being shipped to this lithographer with a more uniform moisture content.

Some lithographers have no hanging equipment; therefore their only alternative to condition paper that is lacking in moisture, causing stretching and misregister, is to put on a blank plate and run the water fountain all over. I have seen paper take on up to 1% of moisture by this method, after one pass through the press. Often the job can be run with satisfactory results after such treatment. Granted that this procedure is expensive, when time, however, does not permit the return of the paper to the mill it is a way out, in order to make delivery.

Exhibit of the Russell Ernest Baum Company, manufacturers of folding machines and suction feeders, at the recent Business and Industrial Show held in Indianapolis.



# STANDARD LITHO GRAINING CO.

We Specialize in  
**ZINC and ALUMINUM  
PLATES**

**UNGRAINED - GRAINED  
REGRAINED**

*A Trial Order Will Convince*

**1432 E. 49th St. CLEVELAND, OHIO**  
Telephone: HENDERSON 0811

## *Cantine's*

### LITHOGLOSS

Coated one side—deluxe grade. For labels, boxes and displays, with regular or gloss inks and bronzing. Varnish quality.

### ZENA OFFSET

Coated two sides. Gives lithographed direct mail brilliance and sparkle. Surfaced for regular offset or gloss inks and varnish.

### CATSKILL LITHO

Coated one side. For labels and general production work at lowest cost for Cantine quality.

*Ask Your Cantine Distributor for Samples*  
**The MARTIN CANTINE Company**  
SAUGERTIES, N. Y.

*Specialists in Coated Papers since 1888*

*lithographic chemicals      litho inks*  
*platemaking equipment and supplies*  
*dry plates and films      pressroom equipment*  
*graining and regraining materials*  
*offset paper*

## ... or What Will You?

It doesn't matter . . . order anything for the lithographic plant . . . from opaques to blanket cleaners . . . and MODERN LITHOGRAPHY'S advertisers will provide it for you! And the easiest way to find the product or material you're looking for is to consult MODERN LITHOGRAPHY'S "Where-to-Buy-It" directory . . . on page 62. Here are some of the products listed:

CHEMICALS	DRY PLATES & FILMS
ZINC PLATES	PLATEMAKING EQUIPMENT
ALUMINUM PLATES	OPAQUES
GLASS PLATES	LENSES
MULTILITH PLATES	LITHO CRAYON
LITHO INKS	LITHO CRAYON PAPER
VARNISHES	CARBONS
DRYERS	DEVELOPING INKS
COMPOSING MACHINES	FILM DRYERS
FOLDING MACHINERY	PRESSES
SHADING MEDIUMS	OFFSET SPRAY GUNS
VACUUM PUMPS	ROLLERS
TYPEWRITERS	PRESS CLEANERS
DIE CUTTING & FINISHERS	MOTORS
OFFSET PAPERS	BLANKETS
	pH CONTROL

MODERN LITHOGRAPHY'S "Where-to-Buy-It" directory appears monthly. Consult it when you're in the market for new equipment and supplies.

## Busy Year for Trade Assn's.

(from page 27)

an institutional advertising campaign.

8. Train apprentices in organized fashion for every branch of the business: the mechanical,—in conjunction with the trade union; and the executive,—as understudy to senior executives in administrative capacities.

9. Develop open fair mindedness in all industrial relations with the union and others and conduct all negotiations to establish peace and harmony.

10. Voluntarily identify your firm with the local trade lithographers association as an active member and support the group activities with enthusiasm.

11. Treat all account executives as one of the business family.

12. Imprint all work with the union label, job number, name of producer and the trade slogan 'Lithographed in the U. S. A.'

13. Survey your plant periodically for the purpose of modernization in order to keep in the swim with 'big league' practice."

Competition between the lithographic industry and the defense industries for equipment and material should be given serious consideration in the next few months, according to Gordon C. Hall, executive vice-president of the Associated Printers and Lithographers of St. Louis.

"With the greater majority of press manufacturers forsaking the press field and producing machinery and equipment for defense purposes, isn't there a likelihood that press equipment will bring higher prices?" asks Mr. Hall. "Lithographers," he adds, "should give serious consideration to the problem of purchasing new equipment. . . ."

His complete statement is as follows:

**"I DON'T** believe that I can add any more to your 'Ten Commandments of Lithography.' Each of the thoughts that you outlined is of primary importance. If a lithographer is to be successful he must operate his business by living up to all of them. I might add that if he belongs to an Association (and he surely should) that he might well utilize the credit department of the Association not only to cut down just bad accounts but to secure credit information on prospects . . . those who are n. g. shouldn't have time wasted on them in sales solicitation.

Another thing which I think should be given consideration is the possibility of competition between the

lithographic industry and the defense industries on equipment and material. I am thinking somewhat of paper from a recent experience when endeavoring to procure some paper for printing for the public printer.

"With the greater majority of press manufacturers forsaking the press field and producing machinery and equipment for defense purposes, isn't there a likelihood that press equipment will bring higher prices? Lithographers should give serious consideration to the problem of purchasing new equipment on a high market.

"I also think lithographers should give a great deal of thought before purchasing equipment as to whether their selling field can be expanded enough to take care of the additional production in this highly competitive business. It is true that the lithographer must keep up to the minute in having equipment that will produce efficiently and economically and does buy equipment with this in mind, but he should consider also whether the buying field can absorb his increased production.

"Unquestionably the prospects for lithography look better for 1941 than they have for years. With general business better buyers will not be so inclined to buy as closely as they have, and with increased income will possibly be more inclined to be willing to pay for better lithography . . . forsaking the practice of buying the cheap substitutes for lithography and printing that have flooded the country in recent years."

Irwin W. McLean, managing director of the Institute of Bank Stationers, New York, suggests four points which he thinks should be carefully watched by the industry during 1941. Says Mr. McLean:

**"YOUR** letter, giving a start on Ten Commandments for the Lithographic Industry has been the subject of a little study. I would suggest the following additions:

1. Watch carefully your labor relations.

2. Watch carefully Federal Taxation plans and Legislation.

3. Build your sales program on your own product's merits, not on your competitor's demerits, or in other words be positive not negative.

4. Don't sell a customer down, i.e., if a competitor has him on a good product don't attempt to steal him on a mediocre product."

•

Have you renewed your subscription to M. L.? Better do it NOW!

## The Wage-Hour Law

(from page 30)

foreman's office to pick up new orders? How much work done by hand can be done by an inexpensive machine? How often is a large press used on a small job when perhaps two or more orders might be run at the same time?—or a better timing of press runs might allow jobs to be put through on equipment more suited?

Obviously it would be impossible in the scope of such an article as this to prepare a complete check list for efficiency. This is primarily an individual management problem, and any foreman, manager, or owner, can follow up these suggestions and complete his own list.

And how about the labor question? We have already mentioned the possibility of up to 56 hours, without overtime, in a single week under a collective bargaining agreement. The next angle is to start right now and train more people. In many cities, particularly Chicago and New York, lithographers are fairly well unionized and new workers are generally required to come in as apprentices. In this connection, the indenture agreement of a Chicago local of the Amalgamated Lithographers of America sums up the apprentice situation:

" . . . There is nothing so important in the future development of lithography than the systematic or proper training of apprentices. To a substantial degree the apprentices are the life blood of the industry, and unless this important factor is given close attention, the present high standard of lithography will, in the course of time, suffer for want of thoroughly skilled and efficient men . . ."

The Federal Committee on Apprenticeship, through its secretary, William F. Patterson, who is chief of the apprenticeship unit of the Department of Labor at Washington, has long been conducting a program encouraging the apprenticeship system in skilled trades. The committee's members represent industry, labor, and the Government. Details of their operation may be secured from Mr. Patterson, Bureau of Labor Standards, Department of Labor, Washington.

Many lithographers do not train apprentices in the general sense of that

(Turn to page 55)



# GOERZ

**American-Made  
LENSES  
for Photolithography**  
"The Most Exact Tools"



**ARTAR APOCHROMAT**  
f:9 to f:16

The ideal lens for color separation negatives. Color-corrected to produce images of the same size, to correctly superimpose in the finishing process. Focal lengths: 9 1/2 to 70 inches. New sizes 4" and 6" for color separation blowups from 35 mm. Kodachrome.

**GOTAR ANASTIGMAT**  
f:6.8, f:8, f:10

Assuring freedom from distortion, this is the ideal lens for intricate subjects requiring an intense clarity of definition. Focal lengths: 8 1/4 to 24 inches.

**GOERZ PRISMS**

of the Highest Accuracy — For reversed negatives to save stripping the film, and reduction work.

For FREE literature address DEPT. P-L 1

**C.P. GOERZ AMERICAN OPTICAL CO.**  
317 EAST 34<sup>TH</sup> ST. NEW YORK CITY

**American Lens Makers since 1899**

**BEN DAY, Inc.**



**118 East 28th Street, N. Y.**

**U. S. Offers:**

**The most complete  
finishing service  
available**

VARNISHING  
LACQUERING  
MOUNTING  
DIE CUTTING  
TIN MOUNTING

GUMMING  
HEAT SEAL ADHESIVES  
HOT MELT ADHESIVES  
GREASEPROOF COATINGS  
MOISTURE-VAPOR  
RESISTANT COATINGS

*Your correspondence on any finishing problem will have our prompt and careful consideration.*

**U. S. FINISHING & MFG. CO.**

775 WEST JACKSON BLVD.

CHICAGO, ILLINOIS

*A trial will sell when the product is*

# OKAY

**Therefore we urge every lithographer  
to send for samples of —**

**OKAY DEVELOPING INK**

A time tested material with every quality a developing ink should have — also made for deep etch plates.

**OKAY OPAQUE**

The finest negative opaque on the market — consistency and satisfaction assured.

**MASKING OPAQUE**

A recent development, a water soluble opaque for masking on celluloid sheets; smooth flowing and non-sticking in humid weather.

**REX OPAQUE (Red)**

An opaque for paper films and glass, will not chip or crack, and dries rapidly.

All of these photo-offset specialties are manufactured and distributed only by

**F. G. OKIE, Inc.**

247 S. THIRD ST., PHILADELPHIA, PA.

or their agents. Also manufacturers of high-grade photo-offset inks, fine printing inks, compounds, etc.

## What's Ahead?

(from page 24)

**Tennessee Eastman Corporation. Kodak Park produces any synthetic organic chemicals we need and also sells organic chemicals to universities and other laboratories.**

**"Therefore, the management feels that our Rochester operations are not endangered by any shortage of materials that can be foreseen as a result of the war."**

Austin P. Story, vice-president of Chillicothe Paper Co., Chillicothe, Ohio, begs to be excused from commenting on the question of inflation and probable future trends within the next few months. He offers instead the following quotation from "The Indian Queen" by Dryden:

**"Seek not to know what must not be reveal'd;  
Joys only flow where Fate is most conceal'd.  
Too-busy man would find his sorrows more  
If future fortunes he should know before;  
For by that knowledge of his Destiny  
He would not live at all, but always die."**

That concludes the round-up of opinion concerning the threat of inflation and probable price trends in the industry. We hope that by thus presenting the picture from the supply and equipment manufacturers point of view, some of the problems ahead for the lithographic industry may have been clarified.

**B**EFORE concluding, we would like again to remind lithographers of the statement made by President Roosevelt in his talk to the nation recently, in which he declared that at some point in the inflationary trend prices would be stabilized. Also, we would like to recall the statement made earlier in this article by Leon Henderson, defense commissioner in charge of price stabilization, that the defense administration is preparing to take action to prevent price increases from starting an inflation spiral.

These may be interpreted as reassuring signs. On the other hand, especially in view of the President's statement that the present emergency should be likened to a war-time emergency, and that the "business as usual"

attitude was entirely out of place, some measures similar to a war-time price control program may be soon enacted.

If this happens, the major type of price control, of course, will be the fixing of maximum prices. In connection with the production of lithography, for example, the raw materials for which would be price-controlled at an earlier stage in the production process, the maximum price control would take the form of limiting mark-ups over cost.

Naturally, the transfer to a price controlled economy would be accompanied by a large amount of confusion because of the major adjustments required. For example, at what level would maximum prices be fixed? In the last war, at which time the government fixed prices, the Federal Trade Commission made most of the cost surveys and probably will do so again. Since price is only one of the elements in a transaction, others would also have to be controlled if the fixed price is not to be evaded by variations in these other factors. These other factors would include: the terms of sale including various types of discounts, method of payment (cash versus credit), services rendered, trade-in allowances, etc.

## The Wage-Hour Law

(from page 53)

word. However, they usually employ carefully selected messengers and other shop helpers. No exact figures could be available, but it would be an interesting study to see how many boys taking their first jobs in a lithographic plant remain there until they can qualify as full-fledged journeymen. Undoubtedly the figure would be high. In putting these boys to work at the present time, it is extremely good practice to permit and even encourage—with an eye toward the future of the trade—the interest of these boys in the transfer section, the camera, the press, layout sections, and other branches of a plant, and in the business itself.

The present emergency should keep us reminded that unemployment is still a problem of great magnitude. Men capable of working are entitled to their chance to work. Their opportunities must not be diminished by needless lengthening of hours of work for those already employed. Young men who have

had no opportunity for employment must now have their opportunity. Skilled occupations need them!

**T**HE Wage and Hour Division has formulated regulations to assist in the employment of beginners, whether in the semi-skilled occupations or apprentices in the higher skilled crafts, under provisions made for their employment at sub-minimum rates during reasonable and necessary training periods. In this way the public and employers share in the cost of training. Traditionally, industry has trained its own beginners to maintain necessary working forces.

Employers in the higher skills are now paying beginners more than the minimum wage rate required by the Fair Labor Standards Act. In other instances, however, sub-minimum rates are necessary. The Wage and Hour Division authorizes this by special certificates. The Division has decentralized this work so that State Apprenticeship Councils or local joint committees of employers and employees may approve the apprentice arrangement and the employer may put the young man to work immediately. When this action is reported to the Administrator he issues a formal certificate if the terms of employment employ the standards established by the Federal Apprenticeship Council.

Summing up these various phases of the lithographic industry and its involvements with the Wage and Hour Law and requirements for National Defense, it does not seem that the industry need worry a great deal just at present. For the future, a check on plant efficiency as demands grow, will allow increased production at lessened cost, while an opportunity for apprentices and other newcomers to learn the trade will lead to greater efficiency of operation, ample supply of labor, a spread of employment, and a definite opportunity for the lithographers of America to play their part in the defense of our Nation.

## Veteran Lithographer Dies

Valentine J. Schreiber, 78, veteran lithographer, died last month in his home in Buffalo. He had been employed by the Hayes Lithographing Company for more than a quarter of a century.



*Superior Quality*  
UNGRAINED

**ZINC  
OFFSET PLATES**

*for*  
ALBUMEN OR DEEP ETCH PROCESS

*Rolled Under Rigid Technical Control with  
a Background of 70 Years Experience*

Specify Illinois Zinc Plates thru any litho  
supply house or grainer in United States or  
Canada

**ILLINOIS ZINC COMPANY**

ESTABLISHED 1870

*Sales Offices*

CHICAGO  
2959 W. 47th St.

NEW YORK  
630 Fifth Avenue

**A  
CRAMER  
PLATE**

FOR EVERY

*Reproduction  
NEED*

**SUPER CONTRAST    •    CRACO LITH  
PANCHROME        •    CONTRAST  
CRAMER "25"       •    ALPHA**

**PANCHROME PROCESS**

**G. CRAMER DRY PLATE CO.**

**New York    ST. LOUIS    Chicago**

**ALL WOOL  
AND A YARD  
WIDE . . . . .**

That's what lithographers say who have read our  
folder on THE CAUSE & CURE OF BLANKET  
STREAKS. In other words, it is packed with meaty  
information that's 100 per cent accurate and prac-  
tical. What is more, the folder is free. Yours for  
the asking.

**Write for it today!**

Also ask about our SMART PLATEN PRO-  
CESS, a patented method for truing press  
cylinders without dismantling.

**C. W. LATHAM**

6 Lafayette Ave.  
Brooklyn, N. Y.

**W A N T E D  
TO BUY**

Lithographer desires to pur-  
chase outright, on a royalty or  
some other basis, offset nega-  
tives, positives, plates or other  
material to reproduce.

BOX No. 637

**MODERN LITHOGRAPHY**

254 West 31st St.    •    New York, N. Y.



# LITHOGRAPHIC ABSTRACTS

Abstracts of important current articles, patents, and books, compiled by the Research Department of the Lithographic Technical Foundation, Inc. These abstracts represent statements made by the authors of articles abstracted, and do not express the opinions of the abstractors or of the Research Department. Mimeographed lists have been prepared of (1) Periodicals Abstracted by the Department of Lithographic Research, and (2) Books of Interest to Lithographers. Either list may be obtained for six cents, or both for ten cents in coin or U. S. stamps. Address the Department of Lithographic Research, University of Cincinnati, Cincinnati, Ohio.

## Photography and Color Correction

**A Transmission Densitometer.** Beverly Dudley. *Photo Technique*, 2, No. 11, Nov. 1940, pp. 65-6. The construction and calibration of a transmission densitometer are described in detail. The instrument has a density range of 0 to 2.5, operates on 110-volt A. C. or D. C., and will measure to the center of negatives 17 inches wide.

**Color Filter for Photomechanical Processes.** John A. C. Yule (to Eastman Kodak Co.). *U. S. Patent* No. 2,221,037 (Nov. 12, 1940). A filter for making a color separation negative for use in photomechanical process work employing three subtractive-color coloring materials having known reflectivities separately and in combination to the three primary colors, said filter transmitting one of the primary colors and sufficient of at least one other of the primary colors that, with respect to the color of said filter, the reflectivities of said coloring materials in combination are approximately equal to the respective products of the reflectivities of the separate materials.

**Process Practice (No. 9).** Frank H. Smith. *Process Engravers' Monthly*, 47, No. 561, Sept. 1940, pp. 300-01. The exposure for a fixed stop varies according to the square of the camera extension. To determine exposure at different size, a strip of paper equal in length to  $\frac{1}{2}$  the square root of the exposure at same size is mounted beside

the copy. When focused to size, the apparent length of the strip is measured, its true length added, and the sum squared, to give the correct exposure. With really bad copy the image may be weak despite accurate exposure and development. In such a case the old process of re-development can be most useful.

**Practical Photography in Photo-Engraving.** Richard Gardner. *Photo Engravers' Bulletin*, 30, No. 4, Nov. 1940, pp. 110-119, 122. Recent developments having an indirect influence on the graphic arts are the Kodatron Speedlamp, the coating of lenses to reduce reflection, and fluorescent lighting. Processing instructions for using Kodalith Transparent Stripping Film for color separation work, and the formulas and method for making "colored" negatives with Kodalith are given. New lower-intensity light sources necessitated the development of the new Kodagraph line of higher speed films. In connection with Kodachrome reproduction the following topics are discussed: selection of transparencies, the making of separations, masking, equipment necessary, and lighting arrangements.

**Optical Developments.** J. S. Mertle. *Graphic Arts Monthly*, 12, No. 11, Nov. 1940, pp. 38, 40, 42, 44, 46, 77. Acrylic resin plastics such as Lucite and Plexiglas may in the future be used for the production of lenses for precision optical instruments. An interesting development in photographic optics is the elimination of reflections from the surfaces of the various elements of a lens. Reflections from the surface of copy can be eliminated by polarcreens. Other developments described are image reversers, cellophane or synthetic resin color filters, and half-tone screen compensators.

**Standardizing Halftone Technique.** Herbert P. Paschel. *MODERN LITHOGRAPHY*, 8, No. 11, Nov. 1940, pp. 29-31, 53, 55. Data and calculations

are given for standardizing halftone technique. Convenience and simplicity are obtained by keeping the screen distance constant and varying stop size. The one-stop exposure system works well with a certain type of copy, but multiple-stop exposures must be used for copy that is either flatter or more contrasty. Intensification and reduction may often be used to advantage. Over-exposure is to be preferred to under-exposure, and development should never be cut short.

**The Temperature Controlled Developing Sink.** James T. Campbell. *National Lithographer*, 47, No. 11, Nov. 1940, p. 30. Hydroquinone, the developer most generally used for graphic arts work, is affected more by temperature than any other developing agent. Above 68 degrees F., frilling, fogging, and staining occur, development speed is increased, and dots become mushy. Below 65 degrees F., developing action is delayed; at slightly below 60 degrees hydroquinone precipitates. The fixing bath should be kept at the same temperature as the developer. A temperature controlled developing sink equipped with both heating and cooling units and with a thermostat control switch, made of chemical-resistant metal and well insulated, should be installed.

**Stripping Technique.** Anonymous. *Printing Equipment Engineer*, 61, No. 2, Nov. 1940, p. 20. Stripping with film is simpler and easier than with wet plate. Where complicated inserting is not required, a celluloid base non-stripping film is practical. Sheet strip-film is best in shops where a variety of copy is handled. Two types of roll-film are available to houses requiring volume production and low cost. A new solution permits stripping either face up or face down, and easy restripping after printing. A correctly mixed fixing bath and properly cleaned stripper glasses will eliminate difficulties.

## Color or Black & White

### HAMMER DRY PLATES and FILM

are the choice of discriminating craftsmen for negatives and positives.

HAMMER PANCHROMATIC PLATES A. H.  
SOFT GRADATION      COMMERCIAL  
PROCESS      CONTRAST

HAMMER SUPER PROCESS PLATES A. H.

HAMMER OFFSET PLATES A. H.  
SPECIAL ORTHO      ORTHO      REGULAR

HAMMER OFFSET FILM A. H.

SPECIAL ORTHO      HALFTONE      REGULAR

SEND for descriptive booklet Dept. M. L. 1

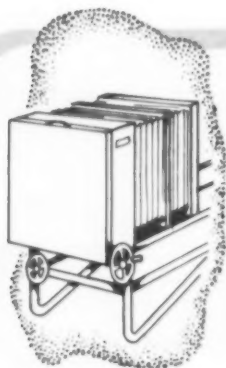
**HAMMER DRY PLATE & FILM CO.**  
OHIO AND MIAMI      ST. LOUIS, MO.

## DRISCOLL'S

*Coverwell*  
**INKS**

**OFFSET**  
**LETTERPRESS**  
**ANILINE**

**MARTIN DRISCOLL & CO.**  
610 FEDERAL STREET • CHICAGO, ILLINOIS  
BRANCH PLANT IN MILWAUKEE, WISCONSIN



## PLATE MAKING EQUIPMENT

Specially Designed and Built  
**FOR SMALL PLATES**  
PLATE SIZES—10 x 14 TO 20 x 23

WRITE FOR  
CATALOG  
AND DE-  
SCRIPTIVE  
LITERATURE.

- OUR PRICE INCLUDES
- INSTALLATION AT YOUR SHOP
  - PERSONAL INSTRUCTIONS
  - INITIAL SUPPLIES

*Photo-Lith Sales*  
5741 WEST DIVISION ST. • CHICAGO

*Now Available!*



### The Textbook of PHOTOGRAPHY and PLATEMAKING for PHOTO-LITHOGRAPHY

The standard textbook used by the  
Chicago School of Printing and  
Lithography.

280 pages of easy to understand, step-by-step procedure for every operation from copy to the completed plate. Some of the subjects covered are . . .

**PHOTOGRAPHY:** The chemistry of photography and formulas; The procedure for making Wet and Dry Plate Negatives; Filtering; Halftones; Screen Separations; Drop-Outs.  
**PLATEMAKING:** The chemistry of lithographic printing; Albumin platemaking; with formulas and procedure; Deep-etched plates by the gum or glue processes; Blue prints and other direct printing processes. Hydrometer control; pH control, etc. *Price \$5 with order.*

**Modern Lithography**

254 W. 31st Street

New York, N. Y.

## Planographic Printing Surfaces and Plate Preparation

**Developing Composition.** Willy O. Herrmann and Wolfram Haehnel (to Chemische Forschungsgesellschaft, m.b.H.). *U. S. Patent* No. 2,215,551 (Sept. 24, 1940). A developing composition for rendering printing surfaces receptive to printing ink, comprising a mixture of asphalt, carbon black, pitch, petrolatum, turpentine and phenol.

**Dry Lithography From Relief Plates.** Anonymous. *Modern Lithographer and Offset Printer*, 36, No. 10, Oct. 1940, p. 132. Printing by dry offset from a litho plate etched in relief is especially applicable to printing check backgrounds and other all-over patterns. Polished zinc or copper plates should be etched cleanly to .007-.009 inch, with no undercutting. Ink should be of maximum strength, inking rollers must be accurately set to barely touch the plate, and light even pressure must be maintained between plate and blanket cylinders.

**The Water-Cooled Lamp, A New Light Source for Printing.** R. E. Farnham. *Photo Engravers' Bulletin*, 30, No. 4, Nov. 1940, pp. 92-8. Medium-pressure mercury lamps, rich in blue-violet and ultra-violet, show promise for use with wet plate. For films such as Kodolith, a 1500-watt, 3-inch incandescent lamp has been developed. As the bichromated coating used on metal plates has a low sensitivity which is mainly in the ultra-violet, the high-powered water-cooled mercury vapor lamp, which puts out a large amount of light in the band at 3650 Angstrom units, is most efficient. Fluorescent lamps for half-tone camera work are a possible future development.

**Method of Preparing Planographic Plates.** Herbert L. Loeffler (to Addressograph-Multigraph Corp.). *U. S. Patent* No. 2,220,252 (Nov. 5, 1940). That process of removing portions of a light-exposed chromate sensitized colloid film, containing an effective amount of dextrine, from a printing plate and deep etching the portions of the plate so exposed, which includes the

step of treating the film-covered plate, after exposure, with a ferric chloride developer-etch containing magnesium and calcium chlorides, the magnesium chloride being in considerable excess over the calcium chloride, whereby the unexposed portions of the colloid film only are removed and the metal thus uncovered is etched, the presence of the dextrine in the film permitting the ready removal thereafter of the remainder of the film without affecting the etched plate.

## Equipment and Materials

**Ink Supply Roller.** Albert J. Horton (to R. Hoe & Co.). *U. S. Patent* No. 2,217,552 (Oct. 8, 1940). A liquid supply roller having a chamber therein to hold liquid, and a peripheral portion formed of yieldable elastic material provided with apertures extending through to communicate with the chamber to convey liquid from the chamber to the periphery of the roller or from the periphery of the roller into the chamber, each aperture being so shaped that it is normally restricted or closed at its inner terminal and the yieldability and elasticity of the said peripheral portion being of such character that the aperture will open at its inner terminal responsive to pressure applied to the outer surface of the said peripheral portion and close when the application of said pressure is discontinued.

**Damping Mechanism for Lithographic Presses.** David M. Rapport (to Rapid Roller Co.). *U. S. Patent* No. 2,220,278 (Nov. 5, 1940). In a printing press adapted to use a planographic plate of any kind for direct or offset printing and including deep-etch plates, a damping mechanism for said plate, and at least one member for distributing damping solution for said plate, said member being composed of a non-metallic absorptive material inhibitive to the galvanic action of an electric couple between said member and said plate.

**Know Your Stream-Feeder.** Jack Bluemer. *Midwestern Lithographer*, 5, No. 7, Nov. 1940, pp. 5-6. The construction and operation of the stream-feeder is described. The four separator fingers at the back of the pile, too often

overlooked or not used, should contact the pile about  $\frac{1}{8}$  inch. Evenness and correct height of pile, and correctly regulated air pressure from the blast feed are important. The two telescopic-type carrying suckers should be set at low places in the pile of stock, and the two other carrying suckers about two inches inward from the raising suckers. Carrying suckers should be well oiled to facilitate a back action designed to further loosen the sheet.

## Paper and Ink

**Printing Ink.** Louis M. Larsen (to International Printing Ink Corp.). *U. S. Patent* No. 2,216,689 (Oct. 1, 1940). A typographic printing ink comprising a pigment and a drying oil varnish, and 2 per cent to 10 per cent of "Syncera" wax.

**Coated Paper.** Don Nicholson, W. B. Wheelwright, and C. W. Latham. *MODERN LITHOGRAPHY*, 8, No. 11, Nov. 1940, pp. 34-5. When running coated paper by offset, water must be reduced to a minimum to prevent softening of the coating and curling of the paper. Stock made for offset, properly seasoned and with correct moisture content, should be used. Ink must be reduced to prevent picking and to attain a degree of penetration, but it must be done cautiously or emulsification and other troubles will ensue. A hard blanket of good quality and in good condition, and a minimum of back cylinder pressure should be used.

**Gurley-Witham Curl and Shrinkage Tester.** Anonymous. *Paper Trade Journal*, 111, No. 22, Nov. 28, 1940, p. 78. An instrument which measures the curl and shrinkage of paper quickly and simply is described.

**Rigidity, Stiffness, and Softness of Paper and Paperboard.** Anonymous. *TAPPI Tentative Standard T 451 m-40*. *Paper Trade Journal*, 111, No. 22, Nov. 28, 1940, pp. 123-4. A detailed description is given of the apparatus, selection of test specimens, procedure, means of reporting results, and precision of the TAPPI standard method of determining the flexural resistance of paper or board, the stiffness of fibrous material, the limpness or flabbiness of paper, and the softness of tissues.





**"Say Crescent for a Prosperous New Year"  
... Says the Crescent Gink**

Resolve to use Crescent Inks during 1941 for a full year of quality work that runs without money-wasting kinks. Crescent Inks give you brilliant colors, clean sharp tones, faithful reproduction under adverse as well as ideal conditions. Remember, Crescent Inks cost you no more . . . do more for you!

**CRESCENT INK AND COLOR CO.**

WALTER CONLAN, President

464 N. Fifth Street

Philadelphia, Pa.

THERE ARE DEPENDABLE

**MERCK PRODUCTS**

**FOR EVERY CHEMICAL NEED OF THE  
PHOTOLITHOGRAPHER**

MERCK & CO. Inc. *Manufacturing Chemists* RAHWAY, N. J.

New York • Philadelphia • St. Louis

In Canada: Merck & Co. Ltd., Montreal and Toronto

**It's Easy To Make  
Money  
With Vari-Typer**

Compose copy for bulletins, sales manuals, booklets, catalogs, folders, etc. on the composing Type Writer . . . with changeable faces and spaces. Any competent typist after proper instruction can Vari-Type your work to photo offset copy with large savings and improved appearance.



Write Today for new specimen portfolio "How to Make Money with Vari-Typer" . . . with actual samples issued by organizations in the lithographic field.

**RALPH C. COXHEAD CORPORATION**

Manufacturers of Vari-Typer

333 Sixth Avenue

New York, N. Y.

We compliment the trade of  
modern lithographers for their achievements!  
**LET US PROVE OUR MERITS IN THIS FIELD**

Contact Us For

**LITHO EQUIPMENT  
and SUPPLIES**

**THE DOUTHITT CORPORATION**

650 W. BALTIMORE AVE. DETROIT, MICH.

**SAY you saw it in  
MODERN LITHOGRAPHY!**

• That way your inquiry addressed to our advertisers will assure your obtaining the precise information . . . best suited to meet your specific needs.

**Classified  
Advertising . .**

Brings excellent results at a minimum cost. Rates are only 10c per word with a minimum charge of \$2.00 per issue, except those of individuals seeking employment, where the rate is five cents per word, \$1.00 minimum. Whether you have some surplus equipment or material for sale, have a position open or are looking for a new connection, etc., use space in the Classified Section of Modern Lithography. It will place you in touch with the entire lithographic industry.



**Mottle in Solid Tints.** Anonymous. *Paper and Print*, 13, No. 3, Autumn 1940, pp. 130-1. Mottle on solid tints due to variation in ink film thickness has been studied by PATRA. It is probably dependent on the manner in which the film of ink on the block or plate splits between the plate and paper. The mottle occurs most markedly on non-absorbent papers and when thick films of ink are printed. Some inks are more liable to mottle than others, and the trouble is worse when the printing is done on a platen press than when a cylinder press is used. The effect of other factors such as pressure, press speed, etc., is yet to be investigated.

**Litho-Dopes.** R. J. McEachen and J. A. Beierwaltes. *MODERN LITHOGRAPHY*, 8, No. 11, Nov. 1940, pp. 27-8, 61. A good pressman must be able to adjust his inks to fit slightly differing conditions, but must not dope every ink he uses. Thorough knowledge of inks and adjusting materials is necessary for intelligent ink adjustment. A review of pigments, varnishes, driers, and compounds is given, and their effects on printing ink properties are discussed.

## General

**The Development of Commercial Lithography.** William N. Misuraca. *National Lithographer*, 47, No. 11, Nov. 1940, pp. 18, 38. The following major developments have contributed most to the lithographic industry: (1) the use of metal plates, (2) the offset press, (3) photomechanical processes, (4) the photo-composing machine, (5) the automatic sheet feeder, (6) modern lithographic inks, (7) high-speed presses, and (8) dot-etching. Misuraca elaborates on the above points.

**Lithography and the New World.** Donald Nicholson. *MODERN LITHOGRAPHY*, 8, No. 11, Nov. 1940, pp. 25-6, 61. Production details in lithographing the magazine "The New World" are given. Nicholson describes his method of preparing copy and making half-tones for black-and-white and color. The albumin and dichromated gum deep-etch methods recommended by the Lithographic Technical Foundation are followed, with the exception that whirler speed instead of exposure time

is varied to compensate for changes in relative humidity. The LTF fountain etch, carefully controlled as to pH, is used. The elimination of the water fountain by applying to the plate a glycerin-containing, water-absorbing solution has been tried but is not yet successful.

**Offset Technique.** John Stark. *Inland Printer*, 106, No. 2, Nov. 1940, pp. 69-70. In answer to inquiries, Stark emphasizes the following points: (1) Aluminum plates made by the deep-etch method should be used where durability and resistance to stretch of the plate during long storage are required. They should be stored in a temperature- and humidity-controlled room. (2) There is no reason why deep-etch plates cannot be run on a multilith press. (3) Leather distributing rollers in good condition are as satisfactory as rubber. (4) A white etch (a formula for which is given) should not be used in the water fountain as it prevents steel rollers from taking ink. (5) Lithographic stone will not keep gum from souring. A few drops of carbolic acid should be used for this purpose.

**Chromium Compounds in the Graphic Arts.** John Stark. *Lithographers' Journal*, 1940, 25, No. 6, Sept. pp. 240-241; No. 7, Oct., pp. 284, 301; No. 8, Nov., pp. 328, 351. The danger of carelessness in handling chromium compounds must be impressed upon the graphic arts industry. They are violent poisons if taken internally, and cause ulcers and eczema if they come in contact with even very small skin wounds. Susceptibility of various persons varies from immunity to extreme sensitivity. Several remedies are given. Cases of chromium dermatitis are often complicated by fungus infections. The following precautions are recommended: (1) substitute other chemicals for chromium compounds where possible, (2) do not allow dichromates to touch the skin more than is absolutely necessary, (3) wash hands, arms, and face often and thoroughly, and bathe frequently, (4) avoid skin abrasions, (5) discard dichromate-splashed garments, and (6) use 5% sodium hyposulfite solution after exposure. Treatment for chromium ulcers, dermatitis, and internal poisoning is described.

## Develops Copy-Fitting Chart

A simplified method of fitting copy into a given layout space or for finding the correct space to allow for copy printed in any one of approximately 400 different type faces in common use, has just been developed by B. D. Iola Co., New York. Entitled "Streamlined Copy-Fitting," the charts are sold by the company at \$2.50 a set.

## Ink Estimating Chart

Sigmund Ullman Co., division of General Printing Ink Corp., New York, has just prepared an ink estimating chart from figures supplied by the New York Employing Printers Association, for distribution to the trade. Designed for use as a wall chart, it gives figures showing the amount of ink required for 100,000 square inches of solid forms, for 15 different types of inks on 6 different grades of paper. Copies available on request.

## Installs Humidity Control

The elimination of "off-register" printing on three- and four-color decals has been recently achieved through absolute humidity control in the plant of Superior Decalcomania Co., Dallas, Tex., according to Edward T. Murphy, vice-president of Carrier Corp., Syracuse, N. Y. Control of temperature and humidity was essential, it is said, as decalcomania paper is highly sensitive to changes in humidity in the air, and colors fail to register properly if curling or stretching occurs between color runs. At the Superior plant, the Carrier air conditioning system, supplying a cooling effect equal to the melting of approximately 30,000 pounds of ice daily, maintains a year-round temperature of 78 degrees and a relative humidity of 54 percent in press and processing rooms. Operating costs for air conditioning are said to be about \$150 a month for this plant.

## Maxwell Folder

Maxwell Paper Mills, Franklin, O., are distributing a folder illustrating the characteristics of Maxwell "tub sized" offset paper. Examples of advertising material produced on the stock are shown, together with paper swatches in a range of colors, shades, weights and finishes.

## "WHERE-TO-BUY-IT"

NOTE: This is a classified list of the companies which advertise regularly in MODERN LITHOGRAPHY. It will aid you in locating advertisements of equipment, materials or services in which you are particularly interested. Refer to the Advertiser's Index on page 65 for page numbers. *Say you saw it in Modern Lithography.*

### Chemicals

Agfa-Ansco  
Eastman Kodak Co.  
Harris-Seybold-Potter Co.  
Philip A. Hunt Co.  
Litho Chemical & Supply Co.  
Mallinckrodt Chemical Works  
Merck & Co., Inc.  
Norman-Willets Co.  
Harold M. Pitman Co.  
Senefelder Co., Inc.  
J. H. & G. B. Siebold, Inc.  
Sinclair and Valentine Co.  
John Stark Laboratories

### Graining and Regraining

(Zinc, Aluminum, Glass and Multilith Plates)  
Fuchs & Lang Mfg. Co., Div. General Printing Corp.  
International Printing Ink, Div. of Interchemical Corp.  
Litho Plate Graining Co. of America, Inc.  
Reliable Litho Plate Graining Co.  
The Senefelder Co., Inc.  
Litho Plate Grainers of Detroit  
Standard Litho Graining Co.

### Graining and Regraining Materials

International Printing Ink, Div. of Interchemical Corp.  
The Senefelder Co., Inc.  
J. H. & G. B. Siebold, Inc.

### Inks—(Varnishes and Dryers)

California Ink Co., Inc.  
Crescent Ink & Color Co. of Penna.  
Martin Driscoll & Co.  
Fuchs & Lang Mfg. Co., Div. General Printing Ink Corp.  
Gaetjens, Berger & Wirth, Inc.  
International Printing Ink, Div. of Interchemical Corp.  
E. J. Kelly Ink Co.  
George H. Morrill Co., Div. General Printing Ink Corp.  
F. G. Okie, Inc.  
The Senefelder Co., Inc.  
J. H. & G. B. Siebold, Inc.  
Sinclair & Carroll Co.  
Sinclair and Valentine Co.

### Miscellaneous

Russell Ernest Baum (Folding Machinery)  
Ralph C. Coxhead Corp. (Composing Machines)  
Ben Day, Inc. (Shading Medium)  
Dexter Folder Co. (Folding Machinery)  
C. W. Latham (Consultant)  
U. S. Finishing & Mfg. Co. (Die Cutting & Finishers)

### Paper

The Martin Cantine Co.  
Chillicothe Paper Co.  
Hammermill Paper Co.  
The Mead Corp.  
The Sorg Paper Co.

### Paper—Continued

Strathmore Paper Co.  
West Virginia Pulp & Paper Co.  
Whiting-Plover Paper Co.

### Photo Dry Plates and Films

Agfa Ansco  
G. Cramer Dry Plate Co. (Photo Dry Plates)  
Eastman Kodak Co.  
Hammer Dry Plate & Film Co.  
Norman-Willets Co.  
Harold M. Pitman Co.

### Plate Making Equipment & Supplies

Aluminum Co. of America (Aluminum Plates)  
American Type Founders Sales Corp.  
Artists Supply Co. (Opaque)  
California Ink Co., Inc.  
The Douthitt Corp.  
Fuchs & Lang Mfg. Co., Div. General Printing Ink Corp.  
C. P. Goerz American Optical Co. (Lenses)  
Illinois Zinc Co. (Zinc Plates)  
William Korn, Inc. (Litho Crayon and Litho Crayon Paper Pencil Mfrs.)  
Lanston Monotype Machine Co.  
National Carbon Co., Inc. (Carbons)  
Norman-Willets Co.  
F. G. Okie, Inc. (Opagues—Developing Inks)  
Photo-Lith Sales  
Harold M. Pitman Co.  
Rutherford Machinery Co., Div. General Printing Ink Corp.  
The Senefelder Co., Inc.  
Simplex Specialty Co., Inc. (Film Dryers)  
E. T. Sullebarger Co.

### Pressroom Equipment & Supplies

American Type Founders Sales Corp. (Presses—Offset Spray Gun, etc.)  
Bingham Brothers Co. (Rollers, etc.)  
Sam'l Bingham's Son Mfg. Co. (Rollers)  
The Christensen Machine Co.  
Fuchs & Lang Mfg. Co., Div. General Printing Ink Corp.  
Godfrey Roller Co. (Dampening Rollers)  
Harris-Seybold-Potter Co. (Presses)  
Ideal Roller & Mfg. Co. (Rollers)  
International Press Cleaners & Mfg. Co. (Press Cleaner)  
International Printing Ink, Div. of Interchemical Corp.  
Kimble Electric Co. (Motors)  
LaMotte Chemical Products Co. (pH Control Apparatus)  
Harold M. Pitman Co.  
Rapid Roller Co. (Rollers and Blankets)  
The Rathbun & Bird Co., Inc. (Machinists)  
Roberts & Porter, Inc.  
Rutherford Machinery Co., Div. General Printing Ink Corp.  
The Senefelder Co., Inc.  
J. H. & G. B. Siebold, Inc.  
Sinclair and Valentine Co. (Blankets)  
E. T. Sullebarger Co.  
W. A. Taylor & Co., Inc. (pH Control for Fountain Solutions)  
Vulcan Proofing Co. (Rollers and Blankets)



## CLASSIFIED

All classified advertisements will be charged for at the rate of ten cents per word. \$2.00 minimum, except those of individuals seeking employment, where the rate is five cents per word, \$1.00 minimum. Address all replies to Classified Advertisements with Box Number, care of Modern Lithography, 254 W. 31st St., New York. Closing date: 1st of month.

### General Information Concerning Inventions and Patents:

A reference book for inventors and manufacturers, also containing sections on the registration of trademarks and copyrights, and a "Schedule of Government and Attorneys' Fees"—sent free on request. Simply ask for "booklet" and "fee schedule." Lancaster, Allwine & Rommell, Registered, Patent and Trade-Mark Attorneys, 402 Bowen Building, Washington, D. C.

### Position Wanted:

Cameraman and platemaker can make good halftones, accurate layouts, durable albumen and deep etch plates. Familiar with composing machine. Do some art work. Have a little press experience. Accustomed to quality work. Will go anywhere. Address Box #644.

### Situation Wanted:

Young man, 4 years experience production and estimating with large litho house. Desires better opportunity. Address Box #641.

### Wanted:

A man now selling printing ink and lithographic supplies to carry our line of lithographic, label and overprint varnishes in the New York territory. Address Box #642.

### Help Wanted:

Salesmen with following to represent old established concern producing quality line of general advertising, commercial and label work. Wonderful opportunity. One required New York City and one New York State. Answer

in detail, confidential. Address Box #643.

### Position Wanted:

Plate maker, young man, ambitious, experienced. Desires to connect permanently. Capable in technical and difficult work. (Vacuum frame or photo-composing machine.) Address Box #640.

### Services Offered:

To a progressive lithographer without facilities to make his own color plates, I offer my new simplified process and my services which together produce excellent color work at a very substantial saving. For samples and further information, write Albert V. Schuler, 425 Girard Ave., Royal Oak, Mich.

### For Sale:

Webendorfer offset press, 17 x 22 MA. 3½ years old. Good condition. Priced right. Address Box #638.

### Situation Wanted:

Lithographer, offset, long experience, all branches of black and white art work for reproduction. Address Box #639.

### Situation Wanted:

Young, experienced illustrator, layout, sketch and lettering artist desires position as art director with publishing house or litho plant. Address Box #646.

### Are You Looking for a Practical Lithographer With Many Years of Experience in Factory Supervision?

Diversified background in lithography with the knowledge of standard practice and methods. Address E. E. 1305 Litho Division, 110 E. 42nd St., New York City. Phone Caledonia 5-6800, Ext. 9.

### For Sale:

24" and 34" Levy dark room cameras with iron pipe stands; 20" late type Wesel dark room camera; (lenses, arc lamps and screens for cameras). Singer

Engineering Co., Complete Plate Making Equipment, 242 Mott St., New York City.

### Position Wanted:

Thoroughly competent cameraman, layout man and platemaker, now employed as department foreman, seeks connection with progressive organization that can offer a good future. Address Box #645.

### Calculating the Exposure

(from page 32)

$$30 \text{ seconds} \times 2.25 = 68 \text{ seconds}$$

at ¼ reduction the multiplying factor is .39

$$30 \text{ seconds} \times .39 = 12 \text{ seconds}$$

If a copy exposes correctly at 2x enlargement in 68 seconds and a ¼ reduction must be made of the same or similar copy, divide the lower multiplying factor into the higher factor. The resulting number is then divided into that of the actual exposure time at 2x enlargement. This division gives us the time required at ¼ reduction.

Example: 68 seconds at 2x enlargement, the multiplying factor is 2.25.

x seconds at ¼ reduction, the multiplying factor is .42

$$68 \text{ seconds} \div (2.25 \div .42) = 13 \text{ seconds exposure at } \frac{1}{4} \text{ reduction.}$$

### Even the Litho Industry, etc.

(from page 34)

courses elsewhere whenever possible in advertising and selling. Today, after half a dozen years in the city, she finds herself more often on the lecture platform than facing it. This is her second year as chairman of the Survey of Advertising Course sponsored by the Advertising Women of New York, and she has on numerous occasions addressed classes at the Ballard School (Y.W.C.A) and at the New York School of Display.

She is a member of the New York Advertising Club, of the Advertising Women of New York and of the Women's Fact-Finding Roadside Association. Just recently she became the first representative of the lithographic industry to be elected a member of New York's Club of Printing Women.

**D**URING the past five years her thinking has crystallized into some pretty definite convictions about the  
(Turn to page 66)

## LaMOTTE pH CONTROL METHODS IN THE PLATE AND PRESS ROOMS



This compact unit for determining pH of solutions is complete with pH color standards—indicator solutions—marked test tubes and instruction booklet.

Illustrated folder sent on request

LaMotte pH Service offers simple and economical pH apparatus, indicator solutions etc., for use in determining the pH of fountain solutions, etc.

**LaMOTTE CHEMICAL PRODUCTS CO.**  
Dept. R., Towson, Baltimore, Md.

## THE RATHBUN & BIRD CO., Inc.

IN BUSINESS SINCE 1896

### MACHINISTS

For LITHOGRAPHERS — PRINTERS

PLANTS MOVED

REPAIR SERVICE

MACHINES RE-CONDITIONED

85 GRAND STREET

NEW YORK, N. Y.

Telephone: CAnal 6-4145-4146

## FREE TRIAL OFFER

**SUPREME  
OFFSET  
BLACK**

That's just what we mean — a chance to find out why hundreds prefer Supreme Offset Black. It's a clean working, hard drying rich black with an absolute minimum of "greasing" on the plate.

Write for information on our  
**FREE TRIAL OFFER**  
**E. J. KELLY COMPANY**  
1829 N. Pitcher St. Kalamazoo, Mich.

## KORN'S

LITHOGRAPHIC CRAYONS

" CRAYON PAPER PENCILS

" STICK TUSCHE

" LIQUID TUSCHE

" RUBBING INK

" TRANSFER INK

AUTOGRAPHIC TRANSFER INK

MUSIC - PLATE TRANSFER INK

Manufactured by

**WM. KORN, INC.**

260 WEST STREET

NEW YORK

## John Stark Litho Chemical Supplies

LITHO "SUPER-LAC"

*The Ace Plate Preservative*

Made for smooth and easy application  
1qt. can \$2.75—Four 1qt. cans \$8.00

"SUPER" PLATE DEVELOPING INK

1qt. can \$2.00—Four 1qt. cans \$6.00

For Deep Etch and Albumin Plates

**JOHN STARK LABORATORIES**

155 Granby Rd. So. Hadley Falls, Mass.

Agents, CANADIAN FINE COLOR CO.

240 Logan Ave. Toronto, Canada



**"ASCO"**  
(RED)

**OPAQUE  
BLOCKS OUT**

**WITH A  
SINGLE STROKE**

Exceptional opacity permits close contact with print.

Ground extremely fine. Flows freely from brush, pen or airbrush. Leaves a thin smooth film that will not crack or chip off.

Test it yourself — Send for a sample.

**ARTISTS SUPPLY COMPANY**

7610 Decker Ave.

Cleveland, Ohio

Ask your dealer for "Asco"

**RUSSELL** THE FASTEST SELLING  
FOLDERS IN AMERICA

**ERNEST**

THE WORLD'S GREATEST  
FOLDING MACHINE VALUES **BAUM**

615 Chestnut St.

Philadelphia, Pa.

3 "MUSTS" in  
**PLATE GRAINING**

TOP QUALITY WORK  
DEPENDABLE SERVICE

FAIR PRICES

Make sure of getting all three by letting us handle your next graining job. A trial order will convince you.

**LITHO PLATE GRAINERS of DETROIT, Inc.**

1241 TENTH ST.

DETROIT, MICH.

A Complete Graining Service for the Trade

## Kaufman Is Host

Herbert Kaufman, advertising manager of General Printing Ink Corp., New York, entertained a group of representatives of the various graphic arts publications at the annual Christmas party of the Industrial Advertisers' Association held at the Hotel New Yorker last month.

## Hold Ladies' Night

The Litho Club of Philadelphia held its annual Ladies' Night party last month at the Penn A. C., Philadelphia. Dinner was served at 6:30, followed by entertainment and dancing. Prizes were given out by Santa Claus himself.

## Young Lithos Hear Paper Men

"Sales Helps from the Paper Industry" was the topic discussed at the December meeting of the Young Lithographers' Association, New York, held at the New York Advertising Club. Speakers at the meeting were George G. Otto, West Virginia Pulp & Paper Co., New York, and Osborne Curtis, Jr., S. D. Warren Co., New York. Mr. Otto opened the discussion by describing how paper manufacturers were making every effort to make paper which conforms with today's lithographic requirements. He stressed the importance of the use of recognized standard brands of lithograph papers in order to insure exacting results. While there are still a number of troublesome factors like wrinkling, curling, picking, etc., that the lithographer has to contend with, according to Mr. Otto, these are being gradually reduced and eliminated. Mr. Otto also described the sales helps offered the industry by *Westvaco Inspirations for Printers*, the West Virginia promotional publication. *Inspirations*, said Mr. Otto, was created to show the adaptability of high grade printing and lithographing to high grade papers.

Mr. Curtis spoke on "What Paper Mills are Doing to Help Lithographic Sales." He said that it was the belief of his company that a three-way working partnership exists between the paper manufacturer, the paper merchant and the lithographer in an endeavor to broaden the existing market for printing or create new fields for advertising. He also described how the promotional efforts of the Warren Company helps the lithographer sell his products.

# ADVERTISERS' INDEX

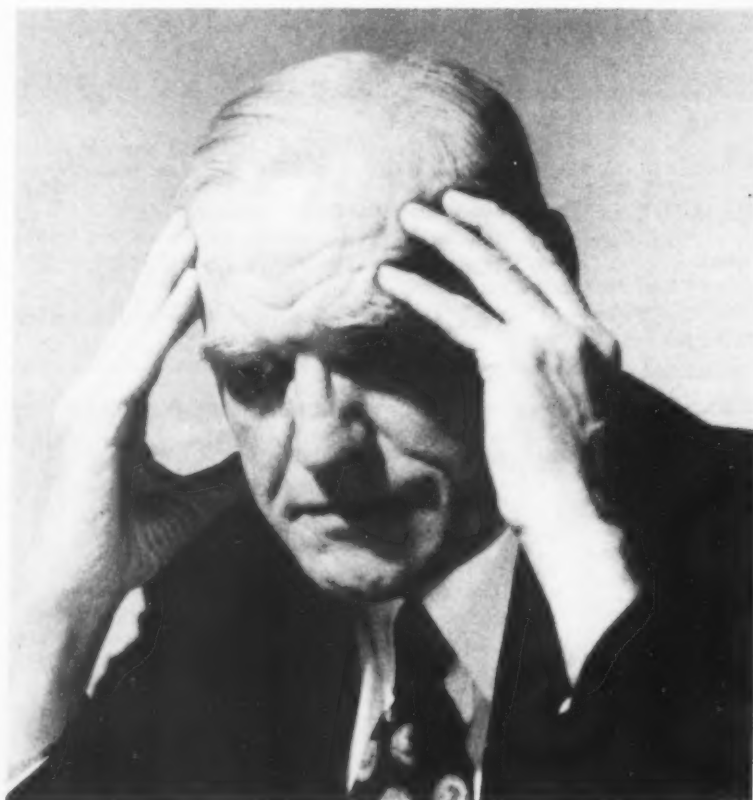
JANUARY, 1941

For Product Classification See Page 62

Agfa Ansco.....3rd Cover	Litho Chemical & Supply Co..... 48
Aluminum Co. of America.....Dec.	Litho Plate Grainers of Detroit..... 64
American Type Founders.....Dec.	Lithographic Plate Graining Co. of America, Inc..... 44
Artists Supply Co..... 64	
Baum, Russell Ernest..... 64	Mallinckrodt Chemical Works.....Dec.
Bingham's Sam'l, Son Mfg. Co..... 9	Mead Corp., The..... 14
	Merck & Co., Inc..... 60
California Ink Co., Inc.....Dec.	Mid-States Gummed Paper Co.....Dec.
Cantine, Martin, Co., The..... 52	Morrill, George H., Co., Div. General Printing Ink Corp.....Dec.
Chillicothe Paper Co..... 38	
Classified Advertising..... 63	National Carbon Company, Inc. (Carbon Sales Division).....Nov.
Coxhead, Ralph C., Corp..... 60	Norman Willets Co..... 50
Christensen Machine Co., The..... 8	
Cramer, G., Dry Plate Co..... 56	Okie, F. G., Inc..... 54
Crescent Ink & Color Co. of Penna.. 60	
	Photo-Lith Sales..... 58
Day, Ben, Inc..... 54	Pitman, Harold M., Co.....Dec.
Dexter Folder Co..... 50	
Douthitt Corporation, The..... 60	Rapid Roller Co.....Nov.
Driscoll, Martin, Co..... 58	Rathbun & Bird Co., Inc., The..... 64
	Reliable Lithographic Plate Co..... 12
Eastman Kodak Co..... 37	Roberts & Porter, Inc..... 11
	Rutherford Machinery Co., Div. General Printing Ink Corp..... 13
Fuchs & Lang Mfg. Co., Div. General Ptg. Ink Corp.....Bet. 10-11	
	Senefelder Co., Inc.....2nd Cover and 4
Gaetjens, Berger & Wirth, Inc..... 38	Siebold, J. H. & G. B., Inc..... 42
Godfrey Roller Company.....Dec.	Simplex Specialty Co., Inc.....Dec.
Goetz, C. P., American Optical Co... 54	Sinclair & Carroll Co..... 44
	Sinclair and Valentine Co..... 7
Hammer Dry Plate & Film Co..... 58	Sorg Paper Co., The..... 12
Hammermill Paper Co.....Nov.	Standard Litho Graining Co..... 52
Harris-Seybold-Potter Co.....4th Cover	Stark, John, Laboratories..... 64
Hunt, Philip A., Co..... 42	Strathmore Paper Co.....Dec.
	Sullebarger, E. T., Co.....Nov.
Ideal Roller & Mfg. Co.....Nov.	
Illinois Zinc Co..... 56	Taylor, W. A., & Co., Inc.....Dec.
International Press Cleaner & Mfg. Co..... 50	
	U. S. Finishing & Mfg. Co..... 54
Kelly, E. J., Ink Co..... 64	
Kimble Electric Co.....Dec.	Vulcan Proofing Co.....Dec.
Korn, William, Inc..... 64	
	West Virginia Pulp & Paper Co.....Oct.
La Motte Chemical Products Co..... 64	"Where-to-Buy-It"..... 62
Lanston Monotype Machine Co..... 3	Whiting-Plover Paper Co.....Dec.
Latham, C. W..... 56	

(The Advertisers' Index has been carefully checked but no responsibility can be assumed for any omission.)





## "What's That Firm?"

"Gosh darn it, their salesman was in here last week,—and I threw his card away,—and now I want a sample of their stuff, and I can't remember the name of the firm!"

Maybe this purchasing agent is trying to think of the name of **your** firm. But not if your firm is a regular advertiser in representative trade papers. Your advertising would not let him forget.

If you want to keep your company and your products everlastingly in the minds of buyers in the lithographic field and not give them a chance to forget you,—we suggest regular advertising in

## MODERN LITHOGRAPHY

254 WEST 31st STREET

NEW YORK

### Even the Litho Industry, etc.

(from page 63)

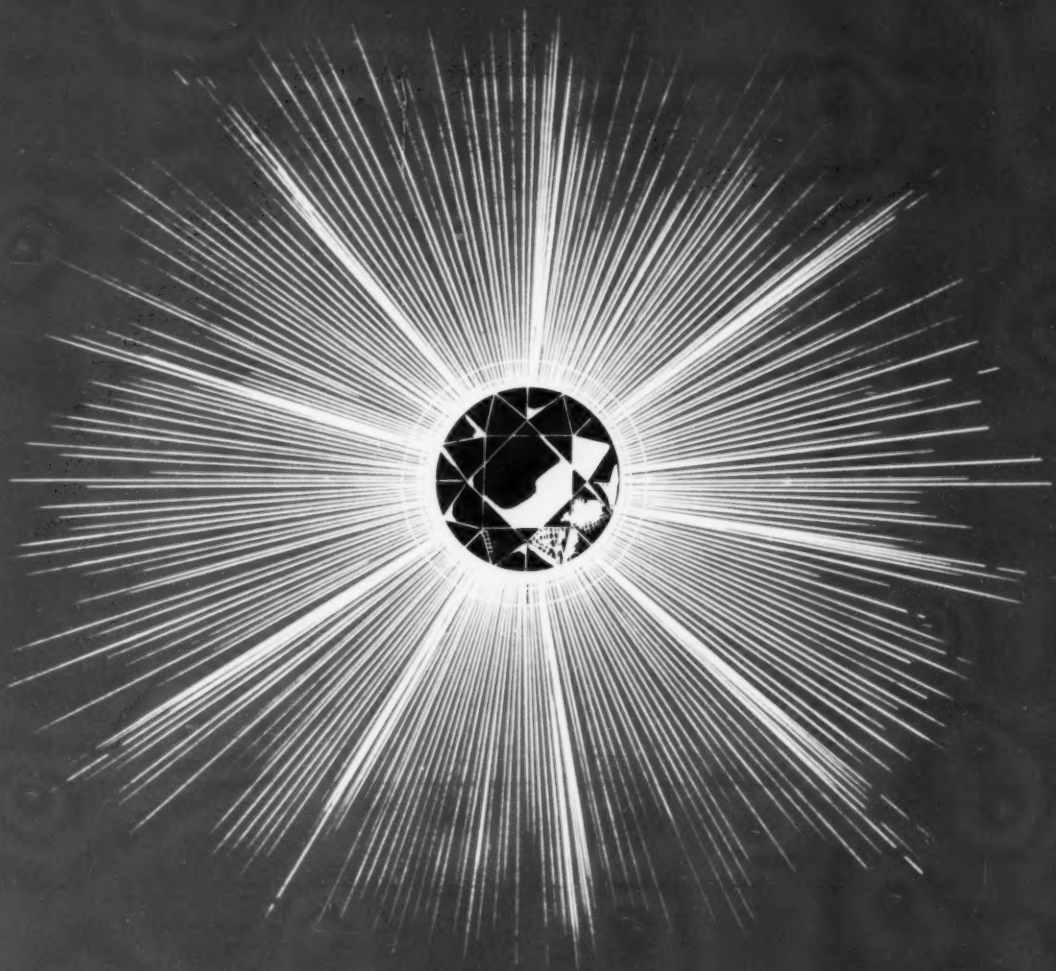
industry. Among other things, she believes very strongly that the competitive animosities between the various graphic arts processes are damaging to all concerned. Lithography, letterpress and gravure, she thinks, are more complementary than competitive. There is plenty of room for each process, she says, and there are certain forms of printing for which each process is more admirably fitted than either of the others. The constructive thing, she believes, is for everyone to get behind the effort to sell more printing no matter what type of reproduction is involved.

She will add, however, that at the moment the lithographic industry has a great competitive advantage due to the fact that the greatest technical developments in lithography have taken place in the last 25 years. This accounts at least in part for the high ratio of *modernly* equipped lithographic plants.

Another conclusion that she has arrived at is that one of the greatest handicaps to the lithographic salesman today is the confusion of terminology which still persists in the industry. Salesmen themselves get confused in trying to explain to the buyer of printing the difference, for example, between offset, offset-lithography, photo-lithography, photo-offset, collotype, etc. It is no wonder, she thinks, that the bewildered buyer comes to the conclusion that lithography is a process shrouded in mystery which is too complex and too difficult for his use. She is convinced that a little straight thinking on the part of the lithographic industry could eliminate these obscurities which, in turn, would make it possible to bring the story of lithography and its potentialities much more effectively to the buying public.

Just in case some of the masculine readers of this article are by now beginning to get a little too enthusiastic about Miss Dorothea Brennan and even to dream dreams and see visions, there is one fly in the ointment. She is Miss Brennan only in her official capacity. In private life, she wears a perfectly authentic "Mrs." in front of her name and, in case you are interested, her husband is an ex-West Pointer. West Point, you remember, is where they teach you all about guns.

MODERN LITHOGRAPHY



## How many sides has a diamond?

**M**IGHT as well ask how many parts in a press—for the number depends on the design.

Requirements are more definite when you consider sensitized materials—for film has a specific job to fill in lithographic work. But the many-sided versatility of Agfa Reprolith films brings advantages that every lithographer should know about. There are, for example, regu-

lar, ortho and pan emulsion types to choose from. Other properties of these outstanding films include: brilliant contrast; high resolving power; wide development latitude; and effective anti-halation coating.

Try Reprolith for yourself. Its dependable excellence and extra margin of quality will bring you the satisfaction that results when using fine materials. **Graphic Arts Division.**  
**Agfa Anasco, Binghamton, N. Y.**

# Agfa Reprolith Films

MADE IN U. S. A.



LITHOGRAPHERS PROCEED  
WITH CONFIDENCE WHEN  
THE PRESS IS A . . .

# HARRIS



• LSG •  
46½" x 68½"  
TWO COLOR

• The known quantity and high standard of Harris production has become an accepted tradition among craftsmen who produce offset.

Craftsmanship in press building that is needed for the adequate execution of pressroom skill has been consistently furnished in a Harris over a long period of years, establishing for this name a matchless reputation for press performance.

#### HARRIS LITHO CHEMICALS

Through research, Harris has developed and standardized new chemicals for both deep etch and surface plate making processes. Full details upon request. Write us with reference to your lithographic problems.

## HARRIS OFFSET PRESSES

HARRIS SEYBOLD POTTER COMPANY

PIONEER BUILDERS OF SUCCESSFUL OFFSET PRESSES

General Offices: 4310 East 71st St., Cleveland, Ohio • Harris Sales Offices: New York, 330 West 42nd St. • Chicago, 343 So. Dearborn St. • Dayton, 819 Washington St. • Atlanta, 120 Spring St., N.W. • San Francisco, 420 Market St. • Harris-Seybold-Potter (Canada) Ltd., Toronto, Montreal • Factories: Cleveland, Dayton